

Joseph Picone

AREAS OF SPECIALIZATION	Human Language Technology, Speech Recognition, Signal Processing, Pattern Recognition, Big Data, Machine Learning, Statistics, Software Engineering
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PERSONAL	Date of Birth: 12/11/1957 Place of Birth: 508 South East Ave, Oak Park, Illinois 60304 Citizenship: United States of America Sex: Male
EDUCATION	Ph.D., Electrical Engineering (August 1980 – August 1983): Department of Electrical and Computer Engineering, <i>Illinois Institute of Technology</i>, 3300 South Federal Street, Chicago, Illinois, USA 60616-3793, Tel: 312-567-3000. Advisor: Dr. Joseph L. LoCicero; Dissertation Topic: Analytic Signal Processing. M.S. in Electrical Engineering (August 1979 – May 1980): Department of Electrical and Computer Engineering, <i>Illinois Institute of Technology</i>, 3300 South Federal Street, Chicago, Illinois, USA 60616-3793, Tel: 312-567-3000. Major: Communications Systems (Non-Thesis Option). B.S. in Electrical Engineering (August 1976 – May 1979): Department of Electrical and Computer Engineering, <i>Illinois Institute of Technology</i>, 3300 South Federal Street, Chicago, Illinois, USA 60616-3793, Tel: 312-567-3000. Major: Circuits and Systems, awards included Summa Cum Laude graduation honors. Other UG Coursework (September 1975 – June 1976): Department of Physics, University of Chicago, 5801 South Ellis Avenue, Chicago, Illinois, USA 60637, Tel: 773-702-1234. Major: Astrophysics, honors included advanced placement in mathematics and foreign language. High School Diploma (August 1971 – June 1975): <i>Fenwick Catholic High School</i>, 505 Washington Boulevard, Oak Park, Illinois, USA 60302, Tel: 708-386-0127. Emphasis: Science. Awards included Salutatorian, Chemistry, and Mathematics.
ACADEMIC EXPERIENCE	Department of Electrical and Computer Engineering, Temple University, 1947 North 12th Street, Philadelphia, Pennsylvania 19122, USA: <i>Professor (07/2009 – Present):</i> Co-founded the Neural Engineering Data Consortium. Created more of an emphasis on software, big data, statistics and machine learning in our UG and graduate curricula; created a four-course sequence in software and computing (Engineering Computation I-IV); overhauled our college-wide senior design sequence, revamped our entry-level circuits sequence, introduced a writing-intensive engineering economics course. Established a strong collaboration with Temple Hospital and Medical School on applications of machine learning to clinical decision support (e.g., automated interpretation of EEGs, digital pathology and real-time critical care monitoring). <i>Department Chair (07/2009 – 06/2012):</i> Reinvigorated a department that had stagnated. Increased enrollment and credit hour production significantly. Created a

strong regional presence for the department. Restructured the administrative and academic programs to increase productivity and efficiency. Led the Department and College through a successful ABET review and a comprehensive internal program review. Led an effort to pursue an engineering research center.

**PROFESSIONAL
EXPERIENCE**
Department of Electrical and Computer Engineering, Mississippi State University, Box 9571, Mississippi State, Mississippi, 39762, USA:

- *Professor (08/2000 – 07/2009)*: Innovations included development of a widely-recognized two-semester capstone senior design course and entrepreneurship emphasis. Collaborated with the Office of Research on many congressional initiatives and research centers.
- *Associate Professor (08/1994-08/2000)*: Developed advanced coursework in speech and signal processing, a digital signal processing laboratory, and undergraduate coursework designed to build computer and information technology skills.

OTHER RELEVANT TEACHING EXPERIENCE:

- *Adjunct Professor (08/1989 – 07/1991)*, Electrical Engineering Program, Erik Johnsson School of Engineering and Computer Science, University of Texas at Dallas, EC 32, P.O. Box 830688, Richardson, Texas, 75083-0688, USA: Graduate-level instruction on fundamentals of speech processing; collaborated on research in microphone array processing.
- *Adjunct Professor (09/1986 – 08/1987)*, Department of Electrical and Computer Engineering, Illinois Institute of Technology, 3300 South Federal Street, Chicago, Illinois, 60616-3793, USA: Upper graduate-level instruction on fundamentals of speech processing including physiology, coding, synthesis and recognition.
- *Instructor (08/1980 – 06/1983)*, Department of Electrical and Computer Engineering, Illinois Institute of Technology, 3300 South Federal Street, Chicago, Illinois, 60616-3793, USA: Courses included electromagnetics and traveling waves. Introduced computer simulations and classroom demonstrations.
- *Teaching Assistant (08/1979 – 06/1980)*, Department of Electrical and Computer Engineering, Illinois Institute of Technology, 3300 South Federal Street, Chicago, Illinois, 60616-3793, USA: Laboratory responsibilities included a recitation class for electromagnetics and electronics hardware.
- *Project Advisor (05/1975 – 08/1976)*, Minority Early Identification Program, Office of Academic Recruiting, Illinois Institute of Technology, 3300 South Federal Street, Chicago, Illinois, 60616-3793, USA: Supervised teams of high school students who executed mechanical engineering and electronics projects; had highest winning percentage of all advisors.
- *Teaching Assistant (09/1971 – 12/1974)*, Astronomy Program, Hawthorne Elementary School, 400 South Ridgeland Avenue, Oak Park, Illinois, 60304, USA: Managed an observatory and lectured junior high school students on various topics in astronomy including telescope construction and operation.

Texas Instruments Incorporated (TI), PO Box 660199, MS 8649, Dallas, Texas 75266-0199, USA:

- *Senior Member of Technical Staff (07/1993 – 08/1994)*, Computer Science Laboratory, Central Research Laboratories. Speech recognition research for consumer and military applications; new business development.
- *Senior Member of Technical Staff (07/1991 – 07/1993)*, Systems and Information Sciences Laboratory, Tsukuba Research and Development Center (TRDC), Texas Instruments Incorporated, 17 Miyukigaoka, Tsukuba, Ibaraki, 305 Japan. Established TI's first international research center; established the voice processing research program.
- *Senior Member of Technical Staff (12/1989 – 07/1991)*, Speech and Image Understanding Laboratory, Computer Science Center. Pursued research into large vocabulary speech recognition with applications in telecom and medicine; initiated planning for the Tsukuba R&D Center.
- *Member of Technical Staff (09/1987 – 12/1989)*, Speech and Image Understanding Laboratory, Computer Science Center. Pursued research into large vocabulary speech recognition, integration of speech and natural language, and very low bit rate voice coding.
- *Member of Technical Staff (09/1983 – 08/1985)*, Speech Systems Research, Computer Science Laboratory, Central Research Laboratory. Developed robust real-time low rate speech coding, voice fundamental frequency detection, and robust speaker independent word recognition for DARPA.

AT&T Bell Laboratories, PO Box 3033, Naperville, Illinois, 60566, USA:

- *Member of Technical Staff (09/1985 – 08/1987)*, Speech Coding, Exploratory Voice Capabilities, Exploratory Switching Systems Laboratory. Developed low cost/high performance speech recognition, AT&T's first low rate speech coding system for secure voice terminals, and the first operator assistance applications for speech recognition in the telephone network.
- *Graduate Student Research Assistant (04/1981 – 08/1983)*, Speech Coding, Exploratory Voice Capabilities, Exploratory Switching Systems Laboratory. Developed high quality 9.6 kbits/s speech coding and synthesis, including real-time systems for telecommunications applications including the National Emergency Telecommunications System (NETS).

OTHER RELEVANT PROFESSIONAL EXPERIENCE:

- *Co-Founder (09/2015 – Present)*, Biosignal Analytics, Inc., 3701 Market Street, Philadelphia, Pennsylvania, 19104, USA. A startup company dedicated to developing healthcare analytics on dense data. A collaboration between the PIs, Temple University and the University City Science Center. Currently seeking second stage funding. Its first product is a decision support tool known as AutoEEG that automatically interprets EEGs for clinicians.
- *Director, Human Language Technology Program Management Office (01/2006 – 12/2007) and VoiceRT Program Manager (01/2005 – 12/2006)*, Intergovernmental Personnel Action (IPA), National Security Agency, 9800 Savage Road, Fort George S. Meade, Maryland, 20755, USA. Managed HLT

research and development across NSA; direct supervisory control over 40 government employees, over 140 contractors, and an annual budget over \$75M; development of a voice services platform and related audio processing technologies. Increased the size and scope of the organization from an annual budget of \$12M to \$75M, and the VoiceRT budget from \$1M to \$12M.

- *Academic Thrust Leader (05/2003 – 08/2005)*, Intelligent Electronic Systems, Center for Advanced Vehicular Systems, Mississippi State University, Mississippi State, Mississippi 39501, USA. Created a multidisciplinary program combining communications, power electronics, human factors and signal processing.
- *Director (08/1994 – Present)*, Institute for Signal and Information Processing (ISIP) and *co-Director (08/2012 – Present)*, Neural Engineering Data Consortium, 1947 North 12th Street, Room 703A, Philadelphia, Pennsylvania, 19122, USA. Internationally recognized for the development and distribution of speech recognition software (www.isip.piconepress.com) and bioengineering (www.nedcdata.org) data resources.
- *Data and Systems Coordinator (01/1997 – 09/1999)*, The Center for Language and Speech Processing, The Johns Hopkins University, 3400 North Charles Street, Baltimore, Maryland, 21218. Coordinated the development of resources for the summer workshops (culminating with participation in the summer workshop).
- *Test Engineer (05/1979 – 08/1979)*, Korhumel Industries, 1050 South Halsted, Chicago, Illinois, 60608, USA. Assembled and tested control systems for power electronics applications.
- *Summer Intern Engineer (05/1977 – 08/1980)*, Advanced Technology Research Laboratory, Quasar Corporation, Matsushita, 9401 West Grand Avenue, Franklin Park, Illinois, 60131, USA. Developed a transversal filter for echo cancellation and ghost reduction; development automated computerized life test software for measuring picture tube reliability.

ACADEMIC
TEACHING
EXPERIENCE

See <http://www.isip.piconepress.com/courses>.

College of Engineering, Temple University:

- *Demystifying Technology* (TU: UNVS 0822): Developed a two-week (6 lecture) micro-course in which we introduce non-technical students to basic concepts in Linux computing, machine learning and big data (Fall 2016 – Spring 2017).
- *Engineering Computation I* (TU: ECE 1111): An entry-level programming course that introduces students to Linux computing, the C programming language and the Python programming language. A hands-on approach involving big data is used to provide an engineering perspective on the topics (Fall 2018 – Present).
- *Electrical Engineering Science I and II* (TU: ECE 2312/2313/2322/2323): An entry-level circuits course focused on the fundamentals of DC/AC circuit analysis. MultiSim and MATLAB are used extensively, and the laboratory experience features hands-on design and PCB fabrication (Fall 2013 – Spring 2014).
- *Signals: Continuous and Discrete* (TU: ECE 3512): Introduces students to linear system theory and provides a unified view of topics such as circuits and systems. MATLAB and other online resources are used extensively (Fall 2009, Fall 2014).

- *Software Tools for Engineers* (TU: ECE 3822): Introduces students to techniques to solve engineering problems of scale (e.g., big data) using modern computing tools such Linux, Python, and web programming frameworks. The primary goal of this extremely popular and unique course is to prepare students for job interviews in which they will be asked very specific programming questions. (Fall 2014 – Spring 2019).
- *Digital Signal Processing* (TU: ECE 4522/5514): A split-level course focused on analysis and implementation of digital signal processing systems. Emphasizes C/C+ coding and hardware implementation issues (Fall 2015).
- *GPU Programming* (TU: ECE 4822/8110): A split-level course focused on understanding Graphics Processing Units (GPU) chips and how to program them using libraries such as CUDA (Fall 2020 - Present).
- *Speech Signal Processing* (TU: ECE 8524): An advanced graduate course that focuses on the fundamentals of the speech signal and how we incorporate that knowledge into its processing; provides an overview of the different speech processing technologies (Spring 2011, also taught at Illinois Institute of Technology and University of Texas at Dallas as an adjunct).
- *Fundamentals of Speech Recognition* (TU: ECE 8525): An advanced graduate course that introduces students to state of the art in speech recognition; updated to include use of the Kaldi open source recognition toolkit and deep learning technology (Spring 2011, Fall 2015).
- *Information Theory* (TU: ECE 8526): Information Theory is a field that has been central to the development of modern communications and computing technologies. This course provides a thorough understanding of the concepts of entropy and information, and how to apply these to real world problems.
- *Introduction to Pattern Recognition and Machine Learning* (TU: ECE 8527/ ECE 4527): An advanced graduate course that introduces students to maximum likelihood estimation, Bayesian estimation, deep learning and a variety of machine learning topics including boosting and cross-validation (Spring 2014 – Present).
- *Advanced Statistical Modeling for Engineering Applications* (TU: ECE 8528): This course builds on a basic knowledge of machine learning, focuses on big data and reviews recent advances in the field. It is a research-oriented course intended to complement a student's thesis or dissertation research (Spring 2023).
- *Fundamentals of EEG Processing* (TU: ECE 8529): A course that introduces students to the fundamentals of EEG signal processing including manual interpretation of EEGs, transduction, analysis and recognition (Spring 2015, Spring 2016).
- *Engineering Analysis and Applications* (TU: ENGR 2011/2013): Introduction to linear algebra and its applications in engineering. This is a math intensive course that explores the analysis and design of linear systems. Introduced the use of Python into the course to supplement analytic solutions (Fall 2022 – Present).
- *Economic Analysis* (TU: ENGR 3096): Introduction to the basics of economic analysis including concepts such as time value of money and return on investment. This is a writing-intensive course that includes writing assignments that focus on relevant current events (Spring 2013, Spring 2014).

- *Senior Project Design I and II* (TU: ENGR 4196/4296/4996): A multidisciplinary capstone design experience offered to the entire College of Engineering. Part of a four-semester sequence I developed that integrates technical communications, professional seminar, and two semesters of design (Spring 2010 – Spring 2012).

Bagley College of Engineering, Mississippi State University:

- *Unix Software Tools* (MSSTATE: ECE 2991): Introduced as a stopgap measure to expose our students to contemporary information technologies (e.g., the Internet); was eventually integrated into the undergraduate curriculum (Spring 1995).
- *Signals and Systems* (MSSTATE: ECE 3512/ECE 3813): Introduced modular programming in MATLAB; increased the emphasis on digital signal processing; focused on sequential signals such as audio and video; emphasized temporal decoding of signals (Spring 1995 – Spring 1999).
- *Senior Design* (MSSTATE: ECE 4012/4512/4521/4522/4532/4542): Rebuilt our capstone design course to satisfy ABET concerns by: merging our computer and electrical engineering courses, introducing a formal design methodology, emphasizing professional skills such as software engineering, project management and communications, and introducing entrepreneurship (Spring 1998 – Fall 2004).
- *Introduction to Digital Signal Processing* (MSSTATE: ECE 4773/6773): Overhauled an existing course by introducing a hardware laboratory, projects, and an emphasis on practical issues such as hardware implementations (Fall 1994 – Fall 1999).
- *Natural Language Processing* (MSSTATE: ECE 7000): Offered remotely as a special topics course while on sabbatical to expose more ECE students to statistical language modeling (Fall 2005).
- *Nonlinear Dynamical Systems* (MSSTATE: ECE 7000): Offered remotely as a special topics course while on sabbatical to support our NSF-funded research in this area (Spring 2006).
- *Advanced Topics in Speech Recognition* (MSSTATE: ECE 8000): Offered as a special topics course to support Ph.D. students executing funded research (Fall 1999).
- *Information Theory* (MSSTATE: ECE 8113): Initiated this course with a focus on a contemporary view of statistical methods in signal processing and applications of statistics beyond communications (Spring 1997, Spring 1999).
- *Pattern Recognition* (MSSTATE: ECE 8443): Provided the necessary background for advanced topics such as speech and image processing and leveraged our research into nonlinear statistical modeling (Spring 2001, Spring 2004, Spring 2008).
- *Fundamentals of Speech Recognition* (MSSTATE: ECE 8463): Leveraged ISIP resources including software and tutorials (Spring 1995 – Fall 2004).
- *Adaptive Signal Processing* (MSSTATE: ECE 8423): Introduced contemporary methods based on linear transforms and Bayesian estimation; developed an extensive set of lecture notes and resources to better prepare students for the course (Fall 2008).

Armour College of Engineering, Illinois Institute of Technology:

- *Engineering Electromagnetics* (IIT: ECE 307): Introduced computer solutions of boundary value problems (Fall 1980 – Spring 1983).
- *Traveling Waves* (IIT: ECE 308): Introduced classroom demonstrations and computer solutions of Smith charts (Fall 1981 – Spring 1983).
- *Digital Processing of Speech Signals* (IIT: ECE 800): Covered fundamentals of speech production, coding, recognition and identification. Introduced computer assignments and real-world technology examples (Spring 1986).

Other Relevant Coursework and Outreach:

- *Young Explorers Club (Starkville Academy High School)*: A one-semester short course introducing the use of Internet technologies to students (Fall 2003).
- I have also offered numerous special projects courses and independent study courses for senior undergraduates interested in developing specialized skills (e.g., LEED certification, EIT exam preparation). Several of these projects led to significant publications, and two of these projects were critical parts of research that eventually was funded by NSF.

Industrial short courses on speech recognition and extensive online tutorials are available from the ISIP web site. All courses are also available from the web, including video recordings, PowerPoint slides, exams and selected student work.

PUBLICATIONS

See <http://www.isip.piconepress.com/publications>.

BOOKS:

1. Ahmed, A., & Picone, J. (Eds.). (2026). *Signal Processing in Medicine and Biology: Applications of Artificial Intelligence in Medicine and Biology* (1st ed.). Springer.
2. Ahmed, A., & Picone, J. (Eds.). (2025). *Signal Processing in Medicine and Biology: Applications of Artificial Intelligence in Medicine and Biology (Tentative)* (1st ed.). Springer. (1st ed., p. 175).
3. Ahmed, A., & Picone, J. (Eds.). (2024). *Signal Processing in Medicine and Biology: Advances in Machine Learning* (1st ed.). Springer. (1st ed., p. 175).
4. Obeid, I., Picone, J., & Selesnick, I. (Eds.). (2023). *Signal Processing in Medicine and Biology: Innovations in Big Data Processing* (1st ed.). Springer. (1st ed., p. 150).
5. Obeid, I., Picone, J., & Selesnick, I. (Eds.). (2022). *Biomedical Sensing and Analysis: Signal Processing in Medicine and Biology*. Springer. (1st ed., p. 204).
6. Obeid, I., Selesnick, I., & Picone, J. (Eds.). (2021). *Biomedical Signal Processing: Innovation and Applications*. Springer. (1st ed., p. 201).
7. Obeid, I., Selesnick, I., & Picone, J. (Eds.). (2020). *Signal Processing in Medicine and Biology: Emerging Trends in Research and Applications*. Springer. (1st ed., p. 281).

BOOK SECTIONS:

8. Alexandrov, D., Dumitrescu, C., Purba, S., Chau, A., & Picone, J. (2026). Channel Efficiency in ECG-Based Multi-Label Cardiac Diagnosis. In A. Ahmed & J.

- Picone, (Eds.), *Signal Processing in Medicine and Biology: Applications of Artificial Intelligence in Medicine and Biology* (vol. 1, p. 41). Springer.
9. Hackel, D., Bagritsevich, M., Dumitrescu, C., Al Mamun, Md. A., Purba, S. A., Heathcote, D., Obeid, I., & Picone, J. (2026). Enabling Microsegmentation: Digital Pathology Corpora for Advanced Model Development. In A. Ahmed & J. Picone, (Eds.), *Signal Processing in Medicine and Biology: Applications of Artificial Intelligence in Medicine and Biology* (vol. 1, p. 50). Springer.
 10. Thundiyil, S. C., & Picone, J. (2025). Time Series Analysis from Classical Methods to Transformer-Based Approaches: A Review. In A. Ahmed & J. Picone, (Eds.), *Signal Processing in Medicine and Biology: Applications of Artificial Intelligence in Medicine and Biology* (vol. 1, p. 56). Springer.
 11. Shah, V., Golmohammadi, M., Obeid, I., & Picone, J. (2021). Objective Evaluation Metrics for Automatic Classification of EEG Events. In I. Obeid, I. Selesnick, & J. Picone (Eds.), *Biomedical Signal Processing: Innovation and Applications* (1st ed., pp. 223-256). Springer.
 12. Golmohammadi, M., Shah, V., Obeid, I., & Picone, J. (2020). Deep Learning Approaches for Automatic Seizure Detection from Scalp Electroencephalograms. In I. Obeid, I. Selesnick, & J. Picone (Eds.), *Signal Processing in Medicine and Biology: Emerging Trends in Research and Applications* (1st ed., pp. 233–274).
 13. Shawki, N., Shadhin, M. G. M., Elseify, T., Jakielaszek, L., Farkas, T., Persidsky, Y., Jhala, N., Obeid, I., & Picone, J. (2020). The Temple University Digital Pathology Corpus. In I. Obeid, I. Selesnick & J. Picone (Eds.), *Signal Processing in Medicine and Biology: Emerging Trends in Research and Applications* (1st ed., pp. 67–104).
 14. Obeid, I., & Picone, J. (2018). The Temple University Hospital EEG Data Corpus. In *Augmentation of Brain Function: Facts, Fiction and Controversy. Volume I: Brain-Machine Interfaces* (1st ed., pp. 394–398). Lausanne, Switzerland: Frontiers Media S.A.
 15. Obeid, I., & Picone, J. (2017). Machine Learning Approaches to Automatic Interpretation of EEGs. In E. Sejdik & T. Falk (Eds.), *Biomedical Signal Processing in Big Data* (1st ed., p. 70). Boca Raton, Florida, USA: CRC Press.
 16. Picone, J., Ganapathiraju, A., & Hamaker, J. (2007). Applications of Kernel Theory to Speech Recognition. In G. Camps-Valls, J. L. Rojo-Alvarez, & M. Martinez-Ramon (Eds.), *Kernel Methods in Bioengineering, Communications and Image Processing* (1st ed., pp. 224–245). Hershey: Idea Group Inc. Global.

JOURNALS REFEREED:

17. Cataldo, A., Criscuolo, S., De Benedetto, E., Masciullo, A., Pesola, M., & Picone, J. (2024). EEG Complexity-based Algorithm Using Multi-Scale Fuzzy Entropy for Detecting Alzheimer's Disease. *Measurement*, 225(114040), 19.
18. Roy, S., Kiral-Kornek, I., Mirmomeni, M., Mummert, T., Braz, A., Tsai, J., Tang, J., Asif, U., Schaffter, T., Ahsen, M. E., Iwamori, T., Yanagisawa, H., Poonawala, H., Madan, P., Qin, Y., Picone, J., Obeid, I., De Assis Marques, B., Maetschke, S., ... Harrer, S. (2021). Evaluation of Artificial Intelligence Systems for Assisting Neurologists With Fast and Accurate Annotations of Scalp Electroencephalography Data. *EBioMedicine*, 1–11.

19. Islam, M. S., Shah, V., Gidde, S., Hutapea, P., Song, S. H., Picone, J., & Kim, A. (2019). Machine Learning Enabled Wireless Intracranial Brain Deformation Sensing System. *IEEE Transactions on Biomedical Engineering*, 1-8.
20. Golmohammadi, M., Harati, A., Lopez, S., Obeid, I., & Picone, J. (2019). Automatic Analysis of EEGs Using Big Data and Hybrid Deep Learning Architectures. *Frontiers in Human Neuroscience*, 13, 76.
21. Shah, V., von Weltin, E., Lopez, S., McHugh, J. R., Veloso, L., Golmohammadi, M., Obeid, I., & Picone, J. (2018). The Temple University Hospital Seizure Detection Corpus. *Frontiers in Neuroinformatics*, 12, 1-6.
22. Saleheen, F., Wang, Z., Picone, J., Butz, B., & Won, C.-H. (2018). Efficacy of a Virtual Teaching Assistant in an Open Laboratory Environment for Electric Circuits. *Advances in Engineering Education*, 6(3), 1-27.
23. Obeid, I., & Picone, J. (2016). The Temple University Hospital EEG Data Corpus. *Frontiers in Neuroscience*, Section Neural Technology, 10, 00196.
24. Harati, A., & Picone, J. (2016). A Doubly Hierarchical Dirichlet Process Hidden Markov Model with a Non-Ergodic Structure. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 24(1), 174-184.
25. Sahu, A., Saleheen, F., Oleksyuk, V., McGoverin, C., Pleshko, N., Harati, A., Picone, J., & Won, C.-H. (2014). Characterization of Mammary Tumors Using Noninvasive Tactile and Hyperspectral Imaging. *IEEE Sensors Journal*, 14(10), 3337-3344.
26. Srinivasan, S., Ma, T., Lazarou, G., & Picone, J. (2014). A Nonlinear Autoregressive Model for Speaker Verification. *International Journal of Speech Technology*, 17(1), 17-25.
27. Ma, T., Srinivasan, S., Lazarou, G., & Picone, J. (2014). Continuous Speech Recognition Using Linear Dynamic Models. *International Journal of Speech Technology*, 17(1), 11-16.
28. Harati, A., & Picone, J. (2014). Predicting Search Term Reliability for Spoken Term Detection Systems. *International Journal of Speech Technology*, 17(1), 1-9.
29. Parker, D., Picone, J., Harati, A., Lu, S., Jenkyns, M., & Polgreen, P. (2013). Detecting paroxysmal coughing from pertussis cases using voice recognition technology. *PLoS ONE*, 8(12), e82971.
30. Crocker, M., Lazarou, G., Baca, J., & Picone, J. (2009). A Bandwidth Determination Method for Ipv6-Based Networks. *International Journal of Computers and Applications*, 31(2), 109-118.
31. Greeley, H., Berg, J., Friets, E., Wilson, J., Greenough, G., Picone, J., Whitmore, J., et al. (2007). Fatigue estimation using voice analysis. *Behavior Research Methods*, 39(3), 610-619.
32. Lazarou, G., Li, J., & Picone, J. (2007). A Cluster-Based Power-Efficient MAC Scheme for Sensor Networks. *Ad Hoc Networks*, 5(7), 1017-1030.
33. Baca, J., & Picone, J. (2005). Effects of Displayless Navigational Interfaces on User Prosodics. *Speech Communication*, 45(2), 187-202.
34. Ganapathiraju, A., Hamaker, J., & Picone, J. (2004). Applications of Support Vector Machines to Speech Recognition. *IEEE Transactions on Signal Processing*, 52(8), 2348-2355.

35. Ganapathiraju, A., Hamaker, J., Ordowski, M., Doddington, G., & Picone, J. (2001). Syllable-based large vocabulary continuous speech recognition. *IEEE Transactions on Speech and Audio Processing*, 9(4), 358-366.
36. Deshmukh, N., Ganapathiraju, A., & Picone, J. (1999). Hierarchical search for large-vocabulary conversational speech recognition: working toward a solution to the decoding problem. *IEEE Signal Processing Magazine*, 16(5), 84-107.
37. Picone, J., Staples, T., Kondo, K., & Arai, N. (1999). Kanji-to-Hiragana conversion based on a length-constrained n-gram analysis. *IEEE Transactions on Speech and Audio Processing*, 7(6), 685-696.
38. Rudis, V., Thill, R., Gramann, J., Picone, J., Kalidindi, N., & Tappe, P. (1999). Understory Structure by Season Following Uneven-aged Reproduction Cutting: a Comparison of Selected Measures Two and Six Years after Treatment. *Forest Ecology and Management*, 114(2-3), 309-320.
39. Picone, J., Ebel, W., & Deshmukh, N. (1995). Automated Speech Understanding: The Next Generation. *Digital Signal Processing Technology*, CR57, 101-114.
40. Picone, J. (1993). Signal modeling techniques in speech recognition. *Proceedings of the IEEE*, 81(9), 1215-1247.
41. Wheatley, B., & Picone, J. (1991). Voice Across America: Toward Robust Speaker Independent Speech Recognition For Telecommunications Applications. *Digital Signal Processing: A Review Journal*, 1(2), 45-64.
42. Picone, J. (1990). Continuous speech recognition using hidden Markov models. *IEEE ASSP Magazine*, 7(3), 26-41.
43. Picone, J. (1990). Duration in context clustering for speech recognition. *Speech Communication*, 9(2), 119-128.
44. Picone, J., Doddington, G., & Pallett, D. (1990). Phone-mediated word alignment for speech recognition evaluation. *IEEE Transactions on Acoustics, Speech and Signal Processing*, 38(3), 559-562.
45. Sukkar, R., LoCicero, J., & Picone, J. (1989). Decomposition of the LPC excitation using the zinc basis functions. *IEEE Transactions on Acoustics, Speech and Signal Processing*, 37(9), 1329-1341.
46. Picone, J., Prezas, D., Hartwell, W., & LoCicero, J. (1988). Spectrum estimation using an analytic signal representation. *Signal Processing*, 15(2), 169-182.
47. Sukkar, R., LoCicero, J., & Picone, J. (1988). Design and implementation of a robust pitch detector based on a parallel processing technique. *IEEE Journal on Selected Areas in Communications*, SAC-6(2), 441-451.
48. Picone, J., Goudie-Marshall, K., Doddington, G., & Fisher, W. (1986). Automatic text alignment for speech system evaluation. *IEEE Transactions on Acoustics, Speech and Signal Processing*, ASSP-34(4), 780-784.
49. Picone, J., Prezas, D., Hartwell, W., & LoCicero, J. (1986). Joint estimation of the LPC parameters and the multi-pulse excitation. *Speech Communication*, 5(3), 253-260.
50. Picone, J., Prezas, D., Hartwell, W., & LoCicero, J. (1986). The stepdown procedure for complex predictor coefficients. *IEEE Transactions on Acoustics, Speech and Signal Processing*, ASSP-34(4), 1010-1011.

51. Picone, J., & LoCicero, J. (1982). An Application of the Barrett-Lampard Expansion to Obtain the Slope Characteristics of a Speech Signal. *IEEE Transactions on Communications*, 30(5), 1259-1262.

JOURNALS MISCELLANEOUS:

52. Kelly J. (2016, June 14). Mother is the necessity of invention for this entrepreneurial young CEO. The Washington Post. Washington, D.C. (available at https://www.washingtonpost.com/local/mother-is-the-necessity-of-invention-for-this-entrepreneurial-young-ceo/2016/06/14/097eb752-3231-11e6-8ff7-7b6c1998b7a0_story.html).
53. Mell, J., & Fitch, K. (2016, March 17). Science Center's Start-Up Accelerator Focuses on "Long Horizon" Technologies. *Science Center News*, pp. 1-2. Philadelphia, Pennsylvania, USA.
54. Moretz, P. (2015, February 2). Grant will help develop more powerful disinfectants. *Temple University News*, p. 2. Philadelphia, Pennsylvania, USA.
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CONFERENCE PRESENTATIONS:

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242. Obeid, I., & Picone, J. (2015). The Neural Engineering Data Consortium. In Working Group on Neurocritical Care Informatics, Neurocritical Care Annual Society Meeting (p. 3). Scottsdale, Arizona, USA.
243. Obeid, I., & Picone, J. (2014). The Neural Engineering Data Consortium. IEEE EMBS BRAIN Grand Challenges Conference. Washington, D.C., USA.
244. Obeid, I., Harati, A., & Picone, J. (2014). EEG Event Detection Using Big Data. *Proceedings of the 48th Annual Asilomar Conference on Signals, Systems, and Computers*. Pacific Grove, California, USA.
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262. Picone, J. (1989a). Towards an Integrated Research and Development Environment. Speech Technology Conference. New York City, New York, USA.
263. Hemphill, C., & Picone, J. (1989). Unifying Speech and Natural Language. AAAI Spring Symposium Series. Palo Alto, California, USA.
264. Wheatley, B., & Picone, J. (1989). Integrating Speech Technologies For Medical Applications. Medical Applications of Voice Response Technology. Pittsburgh, Pennsylvania, USA.
265. Picone, J., Doddington, G., & Godfrey, J. (1988). A Layered Grammar Approach to Speaker Independent Speech Recognition. IEEE Speech Recognition Workshop.

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INVITED PRESENTATIONS:

268. Picone, J. (2024, January 19). Applications of Deep Learning to Automated Interpretation of Electroencephalograms. University of New Mexico Health Sciences.
269. Picone, J. (2023, May 25). Automated Interpretation of Pathology Images. Fox Chase Cancer Center.
270. Picone, J., McKenzie, S., & Desai, M. (2022). Unencumbered Electroencephalogram (EEG) Corpora: Advancing Technology Using Big Data Resources. International Neuroinformatics Coordinating Facility Neuromatics Conference.
271. Obeid, I., & Picone, J. (2019). Applying Speech Processing Approaches to EEG. In EEG: Analytical Approaches and Applications Virtual Symposium. Philadelphia, Pennsylvania, USA.
272. Picone, J., & Obeid, I. (2019). The Temple University Hospital (TUH) Electroencephalogram (EEG) Corpus. In EEG: Analytical Approaches and Applications Virtual Symposium. Philadelphia, Pennsylvania, USA.
273. Coe, J., & Picone, J. (2018). Use of Big Data and Machine Learning in Support of the Pennsylvania Strategic Highway Safety Plan. In PennDOT Research Symposium (p. 21). Harrisburg, Pennsylvania, USA.
274. Picone, J. and Obeid, I. (2018). Enabling Deep Learning Approaches for Automatic Interpretation of EEGs. In Neural Interfaces Conference (p. 23). Minneapolis, Minnesota, USA.
275. Picone, J., & Obeid, I. (2016). Fundamentals in Data Science: Data Wrangling, Normalization, Preprocessing of Physiological Signals. In M. Dunn (Ed.), The BD2K Guide to the Fundamentals of Data Science (p. 1). Bethesda, Maryland, USA: National Institutes of Health.
276. Obeid, I., Picone, J., & Farkas, T. (2016). Transforming Clinical Practice Using Big Data: Embracing Analytics While Balancing Cybersecurity Risks. In A. Kuhlman & M. Mariengo-Hall (Eds.), Crypto-Linguistic Association, Department of Defense (p. 1). Fort Meade, Maryland, USA: Department of Defense.
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279. Picone, J., & Harati, A. (2013). Emerging Directions in Statistical Modeling in Speech Recognition. Department of Computer Science, The University of Iowa. Iowa City, Iowa, USA.
280. Picone, J., Lu, S., & Harati, A. (2013). Hand Gesture Recognition Using Hidden Markov Models. IEEE Section Meeting, Northern Virginia. Arlington, Virginia, USA.

281. Picone, J., Harati, A., Steinberg, J., & Sobel, M. (2013). Nonparametric Bayesian Approaches for Acoustic Modeling in Speech Recognition. Department of Electrical and Computer Engineering, New Jersey Institute of Technology. Newark, New Jersey, USA.
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283. Picone, J., & Obeid, I. (2012). The Neural Engineering Data Consortium: Deja Vu All Over Again. 20th Anniversary Celebration, Linguistic Data Consortium, University of Pennsylvania. Philadelphia, Pennsylvania, USA.
284. Harati, A., & Picone, J. (2012). Applications of Dirichlet Process Models to Speech Processing and Machine Learning. IEEE Section Meeting, Northern Virginia. Fairfax, Virginia, USA.
285. Picone, J. (2011). Human Language Technology: From Bits to Blogs. Department of Kinesiology, Temple University. Philadelphia, Pennsylvania, USA.
286. Picone, J. (2011). Quality Assessment of Search Terms in Spoken Term Detection. Department of Statistics, Temple University. Philadelphia, Pennsylvania, USA.
287. Picone, J. (2010). Quality Assessment of Search Terms in Spoken Term Detection. Department of Electrical and Computer Engineering, University of Delaware. Newark, Delaware, USA.
288. Picone, J. (2010). Human Language Technology: From Bits to Blogs. Department of Neuroscience, Temple University. Philadelphia, Pennsylvania, USA.
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290. Picone, J. (2009). Nonlinear Statistical Modeling of Speech. Department of Computer and Information Science, Temple University. Mississippi State, Mississippi, USA.
291. Picone, J. (2009). Nonlinear Statistical Modeling of Speech. IEEE Section Meeting, Northern Virginia. MacLean, Virginia, USA.
292. Picone, J. (2008). Can You Say Hamburger in 6,000 Languages? The Mississippi School For Mathematics and Science. Columbus, Mississippi, USA.
293. Picone, J. (2006). National Security By The Numb3rs. The Mississippi School For Mathematics and Science. Columbus, Mississippi, USA.
294. Picone, J. (2005). Speech Recognition: An Overview of Statistical Modeling of Acoustics. JHU Summer School on Human Language Technology. Baltimore, Maryland, USA.
295. Picone, J. (2005). Human Language and Communication: Why is this research area still an important challenge? National Science Foundation: Human Language and Communication. Arlington, Virginia, USA.
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301. Picone, J. (2003). Applications of Risk Minimization to Speech Recognition. MIT Lincoln Laboratory. Lexington, Massachusetts, USA.
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303. Picone, J. (2002). Improving Recognition Performance in Noisy Environments. Summer Workshop Planning Meeting, Johns Hopkins Center for Language and Speech Processing. Baltimore, Maryland, USA.
304. Picone, J. (2002). ... Not Just Another Public Domain Software Project ... Dallas Area Speech Technology Professionals Forum. Richardson, Texas, USA.
305. Picone, J. (2002). Hidden Markov Models: A Hallucinatory Approach To Speech Recognition. Department of Cognitive Science, Mississippi State University. Mississippi State, Mississippi, USA.
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307. Hamaker, J., Jelinek, B., & Picone, J. (2002). Sparse Methods for Continuous Speech Recognition. Information Technology Research Program Review, Brown University. Providence, Rhode Island.
308. Picone, J., Hamaker, J., & Ganapathiraju, A. (2002). Speech Recognition: Reasoning Under Uncertainty. Human Language Technology Conference, University of Texas at Dallas. Richardson, Texas, USA.
309. Picone, J. (2001). Internet-Accessible Speech Recognition Technology. University of Texas at Dallas. Richardson, Texas, USA.
310. Picone, J. (2001). Internet-Accessible Speech Recognition Technology. University of Texas at Dallas. Richardson, Texas, USA.
311. Picone, J. (2001). Internet-Accessible Speech Recognition Technology. Michigan State University. Lansing, Michigan, USA.
312. Picone, J. (1999). Human Language Technology Research. Starkville Academy. Starkville, Mississippi, USA.
313. Picone, J. (1999). The ISIP Foundation Classes. Department of Defense. Fort Meade, Maryland, USA.

314. Picone, J. (1999). Baum Welch Training. Department of Defense. Fort Meade, Maryland, USA.
315. Picone, J. (1998). Public Domain Speech Recognition Technology. Media Technologies Laboratory, DSPS Research and Development Center, Texas Instruments. Dallas, Texas, USA.
316. Picone, J. (1998). Recent Developments in ISIP, Äôs LVCSR Activities. Department of Defense. Fort Meade, Maryland, USA.
317. Hamaker, J., & Shaffer, J. (1998). An Overview of Speech Research at ISIP. Starkville Kiwanis Club. Stamford, Connecticut, USA.
318. Picone, J. (1997). An Overview of Speech Recognition Research at MS State. MS State Institutional Advancement Seminar. Mississippi State, Mississippi, USA.
319. Picone, J. (1997). Telecom-Related Activities in ISIP. International Engineering Consortium. Mississippi State, Mississippi, USA.
320. Picone, J. (1989). Automated Speech Recognition: Hidden Markov Models and Beyond. IEEE Section Meeting, Dallas. Dallas, Texas, USA.

MICELLANEOUS PRESENTATIONS:

321. Ferreira Lima Lourenco Dimas, C., & Picone, J. (2024). Annotation of DPATH Data. Student Athlete Showcase, Temple Athletics, Temple University, 1.
322. Melles, A.-M., & Picone, J. (2024). Annotation of Ambulatory EEG Data. Student Athlete Showcase, Temple Athletics, Temple University, 1.
323. Bolshak, D. and Picone, J. (2024). Applications of Large Language Models to Automatic Interpretation of Electroencephalograms. Senior Research Project, College of Science and Technology, Temple University, 1.
324. Melles, A.-M., Oymann, R., & Picone, J. (2023). Annotation of Ambulatory EEG Data. Neuroscience Career Fair, Department of Neuroscience, College of Liberal Arts, Temple University, 1.
325. Picone, J. (2022). The Temple University Hospital EEG Corpus. International Congress of Clinical Neurophysiology, 1.
326. Guitierrez, F., Rizokulova, S., Le, M., & Picone, J. (2022). Breast Tissue Annotation. Temple CAT DPATH Seminar, Temple University, 1–16.
327. Picone, J. (2021). Leveraging Temple University Hospital’s Vast Data Resources: Towards Integrated Multimodal Corpora. *Associate Dean of Research, Lewis Katz School of Medicine, Temple University*, 6.
328. Shah, V., & Picone, J. (2018). EEG Event Classification Using Deep Learning. In Human Language Technology Center of Excellence. Johns Hopkins University, Baltimore, Maryland, USA.
329. Camaratta, J., Golmohammadi, M., Obeid, I., & Picone, J. (2017). AutoEEG: Automatic Interpretation of EEGs. In Temple Innovation Showcase (p. 1). Philadelphia, Pennsylvania, USA.
330. Camaratta, J., Obeid, I., & Picone, J. (2017). Company Status. In Biosignal Analytics Board of Directors Annual Meeting (p. 1). Philadelphia, Pennsylvania, USA.

331. Camaratta, J., Obeid, I., & Picone, J. (2017). Automatic Seizure Detection on the TUH EEG Corpus. In Persyst (p. 5). Philadelphia, Pennsylvania, USA.
332. Camaratta, J., Obeid, I., & Picone, J. (2017). Phase II STTR Status. In Moberg ICU Solutions (p. 1). Ambler, Pennsylvania, USA.
333. Camaratta, J., Obeid, I., & Picone, J. (2017). Phase I STTR Status. In Moberg ICU Solutions (p. 1). Ambler, Pennsylvania, USA.
334. Camaratta, J., Obeid, I., & Picone, J. (2016). BioSignal Analytics Inc. Overview. Angel Capital Association Annual Meeting (p. 1). Philadelphia, Pennsylvania, USA.
335. Picone, J., & Obeid, I. (2015). AutoEEG: EEG Analytics from Big Data. In University City Science Center QED Breakfast.
336. Picone, J., & Obeid, I. (2015). Introducing ISIP and NEDC. In Pennsylvania Department of Transportation (PENNDOT), College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
337. Ward, C., Obeid, I., & Picone, J. (2013). Manual Interpretation of EEGs: A Machine Learning Perspective. Seminar Series, Institute for Signal and Information Processing. Philadelphia, Pennsylvania, USA.
338. Picone, J. (2012). The Department of Electrical and Computer Engineering. Staff Retreat, College of Engineering, Temple University. Philadelphia, Penn., USA.
339. Picone, J., Bai, L., & Baran, G. (2012). The Department of Electrical and Computer Engineering. Lockheed Martin. Philadelphia, Pennsylvania, USA
340. Harati, A., & Picone, J. (2011). Quality Assessment of Search Terms in Spoken Term Detection. Seminar Series, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
341. Picone, J. (2011). Why Study Engineering at Temple? Open House, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
342. Picone, J. (2010). The Department of Electrical and Computer Engineering. Senior Vice Provost for Research. Philadelphia, Pennsylvania, USA.
343. Picone, J. (2010). The Department of Electrical and Computer Engineering. Esperanza Academy. Philadelphia, Pennsylvania, USA.
344. Picone, J. (2010). Why Study Engineering at Temple? Open House, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
345. Picone, J. (2010). Faculty Retreat. Department of Electrical and Computer Engineering, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
346. Picone, J. (2010). The Department of Electrical and Computer Engineering. Senior Vice Provost for Research. Philadelphia, Pennsylvania, USA.
347. Picone, J. (2010). Why Study Engineering at Temple? Open House, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
348. Picone, J. (2010). The Department of Electrical and Computer Engineering. Staff Retreat, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.

349. Picone, J. (2010). Why Study Engineering at Temple? Open House, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
350. Picone, J. (2010). Why Study Engineering at Temple? Open House, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
351. Cohen, R., Higgins, F., Picone, J., & Shah, S. (2010). Emerging Directions in Senior Design: Towards a Multidisciplinary Design Experience. Faculty Retreat, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
352. Gro, J., Moscato, A., Mushaeva, I., & Picone, J. (2010). Introduction to Electrical and Computer Engineering: Towards Autonomous Robots. WE2 Summer Workshop, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
353. Picone, J. (2009). Why Study Engineering at Temple? Open House, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
354. Picone, J. (2009). The Department of Electrical and Computer Engineering. Rowan University. Philadelphia, Pennsylvania, USA.
355. Picone, J. (2009). The Department of Electrical and Computer Engineering at Temple University. Entreprise of RhCollegene-Alpes International Engineering (ERAI). Philadelphia, Pennsylvania, USA.
356. Picone, J. (2009). Department Vision. Department of Electrical and Computer Engineering, University of South Florida. Tampa, Florida, USA.
357. Picone, J. (2009). The Department of Electrical and Computer Engineering. Naval Surface Warfare Center. Philadelphia, Pennsylvania, USA.
358. Picone, J. (2009). Potential Synergies Between Speech Recognition and Proteomics. Life Sciences and Biotechnology Institute, Mississippi State University. Mississippi State, Mississippi, USA.
359. Picone, J. (2009). The Department of Electrical and Computer Engineering. ECE Industrial Advisory Council. Philadelphia, Pennsylvania, USA.
360. Picone, J. (2009). Recognition of Nonstationary Signals. Miltec Research and Technology. Oxford, Mississippi, USA.
361. Picone, J. (2009). Faculty Retreat. Department of Electrical and Computer Engineering, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
362. Picone, J. (2009). The Department of Electrical and Computer Engineering. Board of Visitors, College of Engineering, Temple University. Philadelphia, Pennsylvania, USA.
363. Picone, J., Sadow, S., Koshka, Y., & Neretina, S. (2009). Biocompatible Materials Institute. Planning Workshop, Temple University. Philadelphia, Pennsylvania, USA.
364. Jenkins, W., Lewis, R., Lazarou, G., Picone, J., & Rowland, Z. (2005). Real-Time Vehicle Performance Monitoring Using Wireless Networking. Diversified Technology Incorporated. Mississippi State, Mississippi, USA.
365. Lazarou, G., & Picone, J. (2005). Intelligent Electronic Systems: Integrating Electronics, Communications and Signal Processing. Nissan Technical Center, Nissan Corporation. Yokohama, Japan.

366. Raghavan, S., & Picone, J. (2005). Confidence Measures Using Word Posteriors and Word Graphs. Seminar Series, Center for Intelligent Electronic Systems. Mississippi State, Mississippi, USA.
367. Picone, J. (2004). Capabilities For Intelligent Electronic Systems: Real-time Extraction of Information From Signals. Georgia Tech Research Institute. Mississippi State, Mississippi, USA.
368. Picone, J. (2004). Intelligent Transportation Systems: Integrating Electronics, Communications and Signal Processing. National Automotive Center. Mississippi State, Mississippi, USA.
369. Picone, J. (2004). Capabilities For Intelligent Electronic Systems: Real-time Extraction of Information From Signals. Program Review, George Lea, National Science Foundation (Retired). Mississippi State, Mississippi, USA.
370. Picone, J. (2004). Homeland Security Update: Emergency Response, Border Security, US Visit. John Keast, Chief of Staff, Representative R. Wicker. Mississippi State, Mississippi, USA.
371. Picone, J. (2004). Introducing Human and Systems Engineering at the Center for Advanced Vehicular Systems. Operation Respond, Inc. Mississippi State, Mississippi, USA.
372. Picone, J. (2004). Human and Systems Engineering: Bridging the Gap Between Human and Machine Performance. Nissan North America, Nissan Corporation. Mississippi State, Mississippi, USA.
373. Picone, J. (2004). Human and Systems Engineering: Bridging the Gap Between Human and Machine Performance. Seminar Series, Department of Electrical and Computer Engineering, Mississippi State University. Mississippi State, Mississippi, USA.
374. Picone, J. (2004). Homeland Security Update: Emergency Response, Border Security, US Visit. Mark Keenum, Chief of Staff, U.S. Senator T. Cochran. Mississippi State, Mississippi, USA.
375. Picone, J. (2004). Risk Minimization in Speech Recognition. Department of Electrical and Computer Engineering, Oklahoma State University. Stillwater, Oklahoma, USA.
376. Picone, J. (2004). Risk Minimization in Speech Recognition. Department of Electrical and Computer Engineering, University of Wyoming. Laramie, Wyoming, USA.
377. Picone, J. (2004). Intelligent Transportation Systems: Integrating Electronics, Communications and Signal Processing. American Truckers Association. Mississippi State, Mississippi, USA.
378. Picone, J., & Lazarou, G. (2004). Human and Systems Engineering: Bridging the Gap Between Human and Machine Performance. Dynetics. Mississippi State, Mississippi, USA.
379. Picone, J. (2004). Human Language Technology: Advanced Statistical Modeling with Applications in Biometrics. Accenture. Mississippi State, Mississippi, USA.

380. Picone, J., & Lazarou, G. (2004). Intelligent Electronic Systems: Intelligent Systems with Applications in Homeland Security. Department of Homeland Security, State of Mississippi. Mississippi State, Mississippi, USA.
381. Picone, J. (2004). Statistical Modeling of Speech: Bridging the Gap in Human and Machine Performance. Ncycles. Mississippi State, Mississippi, USA.
382. Picone, J., & Lazarou, G. (2004). Intelligent Transportation Systems: Campus Bus Networking. Information Technology Services, Mississippi State University. Mississippi State, Mississippi, USA.
383. Picone, J. (2004). Introducing Intelligent Electronic Systems at the Center for Advanced Vehicular Systems. Nissan Corporation. Mississippi State, Mississippi, USA.
384. Picone, J., & Lazarou, G. (2004). Joint Congressional Initiatives. Diversified Technology Incorporated. Ridgeland, Mississippi, USA.
385. Parihar, N., & Picone, J. (2004). Performance Analysis of Advanced Front Ends on the Aurora Large Vocabulary Evaluation. Graduate Student Association, Mississippi State University. Mississippi State, Mississippi, USA.
386. Picone, J., & Brocato, J. (2004). Righting Right and Wording Better. Seminar Series, Center for Advanced Vehicular Systems. Mississippi State, Mississippi, USA.
387. Picone, J., Haupt, T., & Rowland, Z. (2004). Human and Systems Engineering: Bridging the Gap Between Human and Machine Performance. American Truckers Association. Mississippi State, Mississippi, USA.
388. Picone, J., Hill, C., Vaughn, R., Johnston, M., & Waggoner, C. (2004). Capabilities in Information Management for First Responders. Operation Respond, Inc. Mississippi State, Mississippi, USA.
389. Picone, J. (2003). New Graduate Student Orientation: Introduction to ISIP. New Graduate Student Orientation, Department of Electrical and Computer Engineering, Mississippi State University. Mississippi State, Mississippi, USA.
390. Picone, J. (2003). Institute for Signal and Information Processing. University of Mississippi Medical Center. Mississippi State, Mississippi, USA.
391. Picone, J. (2003). Institute for Signal and Information Processing. Congressional Staff Federal Initiatives. Mississippi State, Mississippi, USA.
392. Picone, J. (2003). Capabilities for Intelligent Electronic Systems. Department of Homeland Security. Mississippi State, Mississippi, USA.
393. Picone, J. (2003). Intelligent Systems Research at MS State. Congressional Staff Federal Initiatives. Mississippi State, Mississippi, USA.
394. Picone, J. (2003). Institute for Signal and Information Processing. Department of Electrical and Computer Engineering, University of Texas at San Antonio. Mississippi State, Mississippi, USA.
395. Baca, J., & Picone, J. (2003). Voice Dialog Systems. Open House, Center for Advanced Vehicular Systems. Mississippi State, Mississippi, USA.
396. Lazarou, G., Molen, G. M., & Picone, J. (2003). Initiative for Intelligent Electronic Systems. Diversified Technology Incorporated. Ridgeland, Mississippi, USA.

397. Picone, J., & Mazzola, M. (2003). Collaborations in Intelligent Electronics Systems. Annual Retreat, Center for Advanced Vehicular Systems. Mississippi State, Mississippi, USA.
398. Picone, J., Mazzola, M., Molen, G. M., & Baca, J. (2003). An Overview of Intelligent Systems Research at MS State. Human Language and Communication, National Science Foundation. Mississippi State, Mississippi, USA.
399. Picone, J. (2002). Intelligent Systems Research at MS State. Naval Meteorology and Oceanography Command, Stennis Space Center. Hancock County, Mississippi, USA.
400. Picone, J. (2002). Human Language Technology Initiative. Congressional Staff Federal Initiatives. Mississippi State, Mississippi, USA.
401. Picone, J. (2001). Not Just Another Public-Domain Software Project. Nissan Corporation. Mississippi State, Mississippi, USA.
402. Picone, J. (2001). ISIP Overview. Nissan Corporation. Mississippi State, Mississippi, USA.
403. Duncan, R., & Picone, J. (1999). A String Object. Seminar Series, Institute for Signal and Information Processing. Mississippi State, Mississippi, USA.
404. Duncan, R., & Picone, J. (1999). ISIP System Library. Seminar Series, Institute for Signal and Information Processing. Mississippi State, Mississippi, USA.
405. Duncan, R., & Picone, J. (1999). The ISIP System Library - Part II. Seminar Series, Institute for Signal and Information Processing. Philadelphia, Pennsylvania, USA.
406. Picone, J. (1999). Successful Research Strategies. MS State Faculty Development. Mississippi State, Mississippi, USA.
407. Picone, J. (1998). Internet Accessible Speech Recognition Technology. Seminar Series, Institute for Signal and Information Processing. Mississippi State, Mississippi, USA.
408. Picone, J., & Deshmukh, N. (1998). ICASSP 99 Preview. Seminar Series, Institute for Signal and Information Processing. Mississippi State, Mississippi, USA.
409. Picone, J., Ganapathiraju, A., Deshmukh, N., & Zeng, Y. (1998). Towards Public Domain Speech To Text Technology. MS State Alumni Fellows. Mississippi State, Mississippi, USA.
410. Picone, J. (1997). Introducing ISIP. State of Mississippi Legislator Briefing. Mississippi State, Mississippi, USA.
411. Picone, J. (1997). Parameter Trajectory Modeling in Speech Recognition. Seminar Series, Institute for Signal and Information Processing. Mississippi State, Mississippi, USA.
412. Picone, J. (1997). Recent Progress in ISIP. MS State External Research Advisory Committee. Mississippi State, Mississippi, USA.
413. Picone, J. (1997). Introducing ISIP. MS State External Research Advisory Committee. Mississippi State, Mississippi, USA.
414. Picone, J., & Boggess, L. (1996). Intelligent Systems Research Group. DARPA Intelligent Tutoring Program Review. Mississippi State, Mississippi, USA.

PHD DISSERTATIONS SUPERVISED:

- 415. Golmohammadi, M. (2021). *Deep Architectures for Spatio-Temporal Sequence Recognition With Applications in Automatic Seizure Detection*. Temple University.
- 416. Shah, V. (2021). *Improved Segmentation for Automated Seizure Detection Using Channel-Dependent Posteriors*. Temple University.
- 417. Harati, A. (2015). *Nonparametric Bayesian Approaches for Acoustic Modeling*. Temple University.
- 418. Ma, T. (2010). *Linear dynamic model for continuous speech recognition*. Mississippi State University.
- 419. Srinivasan, S. (2010). *A nonlinear mixture autoregressive model for speaker verification*. Mississippi State University.
- 420. Ganapathiraju, A. (2002). *Support vector machines for speech recognition*. Mississippi State University.
- 421. Baca, J. (1998). *Displayless interface access to spatial data: Effects on speaker prosodics*. Mississippi State University.
- 422. Sukkar, R. (1987). *LPC speech: Voiced excitation, arithmetic processing, and linear filtering*. Illinois Institute of Technology.
- 423. Picone, J. (1983). *Analytic Signal Processing*. Illinois Institute of Technology.

MS THESES SUPERVISED:

- 424. Lopez, S. (2017). *Automated Identification of Abnormal EEGs*. Temple University.
- 425. Steinberg, J. (2013). *A Comparative Analysis of Bayesian Nonparametric Inference Algorithms for Acoustic Modeling in Speech Recognition*. Temple University.
- 426. May, D. (2008). *Nonlinear dynamic invariants for continuous speech recognition*. Mississippi State University.
- 427. Raghavan, S. (2006). *Applications of large vocabulary continuous speech recognition to fatigue detection*. Mississippi State University.
- 428. Stanley, T. (2006). *A robust architecture for human language technology systems*. Mississippi State University.
- 429. Alphonso, I. (2003). *Network training for continuous speech recognition*. Mississippi State University.
- 430. Parihar, N. (2003). *Performance analysis of advanced front ends on the Aurora Large Vocabulary Evaluation*. Mississippi State University.
- 431. Sundaram, R. (2003). *Effects of transcription errors on supervised learning in speech recognition*. Mississippi State University.
- 432. Srivastava, S. (2002). *Fast Gaussian evaluations in large vocabulary continuous speech recognition*. Mississippi State University.
- 433. Long, Z. (2001). *The design and implementation of an image segmentation system for forest image analysis*. Mississippi State University.

MS PROJECTS SUPERVISED:

434. Tabrizi, M. (2014). *A Comparative Analysis of Nonlinear Features for an HMM-Based Seizure Detection System*. Temple University, Philadelphia, Pennsylvania, USA.
435. Hamaker, J. (2000). Automatic Learning of Hidden Markov Model Topologies Using Information Theoretic Approaches. Mississippi State University, Mississippi State, Mississippi, USA.
436. Zeng, Y. (2000). Dynamic Time Warping Digit Recognizer. Mississippi State University, Mississippi State, Mississippi, USA.
437. Balakrishnama, S. (1999). Statistical Normalization Functions for Signal Processing. Mississippi State University, Mississippi State, Mississippi, USA.
438. Le, A. (1998). Bayesian Decision Tree for Classification of Nonlinear Signal Processing Problems. Mississippi State University, Mississippi State, Mississippi, USA.
439. Ngan, J. (1998). Information Theory Based Decision Trees for Data Classification. Mississippi State University, Mississippi State, Mississippi, USA.
440. Ganapathiraju, A. (1997). Analysis and Characterization of Fast Fourier Transform Algorithms. Mississippi State University, Mississippi State, Mississippi, USA.
441. Kalidindi, N. (1997). Scenic Beauty Estimation of Forestry Images. Mississippi State University, Mississippi State, Mississippi, USA.

PROJECT REPORTS:

442. Melles, A.-M., Paderewski, M., Oymann, R., Shah, V., Obeid, I., & Picone, J. (2025). The Natus Medical Incorporated Ambulatory EEG Corpus: Annotation Guidelines (p. 16). Temple University.
443. Koshka, Y., & Picone, J. (2025). FET: Medium: A Quantum Computing Based Approach to Undirected Generative Machine Learning Models (p. 15). National Science Foundation. Mississippi State University, Mississippi State, Mississippi, USA.
444. Dumitrescu, C., Purba, S. A., Al Mamun, Md. A., Hackel, D., Bagritsevich, M., Obeid, I., & Picone, J. (2025). Rapid and Inexpensive Precision Breast Cancer Screening Using Machine Learning (pp. 1–6). Pennsylvania Breast Cancer Consortium, Harrisburg, Pennsylvania, USA. (Download).
445. Koshka, Y., & Picone, J. (2024). FET: Medium: A Quantum Computing Based Approach to Undirected Generative Machine Learning Models (p. 12). National Science Foundation. Mississippi State University, Mississippi State, Mississippi, USA.
446. Koshka, Y., & Picone, J. (2023). FET: Medium: A Quantum Computing Based Approach to Undirected Generative Machine Learning Models (p. 7). National Science Foundation. Mississippi State University, Mississippi State, Mississippi, USA.
447. Seifi, S., & Picone, J. (2022). Pilot Experiments on Feature Importance Using the Rutgers COVID 197-Subject Pilot Database (p. 4). Temple University, Philadelphia, Pennsylvania, USA.

448. Seifi, S., & Picone, J. (2022). Pilot Experiments on Feature Importance Using the Rutgers COVID 1,058-Subject Pilot Database. Philadelphia, Pennsylvania, USA.
449. Obeid, I., & Picone, J. (2022). PFI-TT: Software for Automated Real-time Electroencephalogram Seizure Detection in Intensive Care Units. Philadelphia, Pennsylvania, USA.
450. Picone, J., Farkas, T., Obeid, I., & Persidsky, Y. (2021). MRI: High Performance Digital Pathology Using Big Data and Machine Learning. Philadelphia, Pennsylvania, USA.
451. Obeid, I., & Picone, J. (2021). PFI-TT: Software for Automated Real-time Electroencephalogram Seizure Detection in Intensive Care Units. Philadelphia, Pennsylvania, USA.
452. Obeid, I., & Picone, J. (2021). CCRI: Planning: Development of a Community Resource for Digital Image Research. Philadelphia, Pennsylvania, USA.
453. Picone, J., Farkas, T., Obeid, I., & Persidsky, Y. (2020). MRI: High Performance Digital Pathology Using Big Data and Machine Learning. Philadelphia, Pennsylvania, USA.
454. Obeid, I., & Picone, J. (2020). CCRI: Planning: Development of a Community Resource for Digital Image Research. Philadelphia, Pennsylvania, USA.
455. Obeid, I., & Picone, J. (2020). PFI-TT: Software for Automated Real-time Electroencephalogram Seizure Detection in Intensive Care Units. Philadelphia, Pennsylvania, USA.
456. Ferrell, S., Mathew, V., Ahsan, T., & Picone, J. (2020). The Temple University Hospital EEG Corpus: Electrode Location and Channel Labels. Philadelphia, Pennsylvania, USA.
457. Ochal, D., Rahman, S., Ferrell, S., Elseify, T., Obeid, I., & Picone, J. (2020). The Temple University Hospital EEG Corpus: Annotation Guidelines. Philadelphia, Pennsylvania, USA.
458. Obeid, I., Picone, J., & Harabagiu, S. (2019). Automatic Discovery and Processing of EEG Cohorts from Clinical Records. Philadelphia, Pennsylvania, USA.
459. Obeid, I., & Picone, J. (2019). PFI-TT: Software for Automated Real-time Electroencephalogram Seizure Detection in Intensive Care Units. Philadelphia, Pennsylvania, USA.
460. Ferrell, S., Jakielaszek, L., Elseify, T., & Picone, J. (2019). The Temple University Hospital EEG Corpus: Annotation File Formats. Philadelphia, Pennsylvania, USA.
461. Ferrell, S., Mathew, V., Ahsan, T., & Picone, J. (2019). The Temple University Hospital EEG Corpus: Electrode Location and Channel Labels. Philadelphia, Pennsylvania, USA.
462. Persidsky, Y., Farkas, T., Obeid, I., & Picone, J. (2018). MRI: High Performance Digital Pathology Using Big Data and Machine Learning. Philadelphia, Pennsylvania, USA.
463. Harabagiu, S., Obeid, I., & Picone, J. (2018). Scalable EEG interpretation using Deep Learning and Schema Descriptors. Philadelphia, Pennsylvania, USA.

464. Coe, J., Abboud, B., & Picone, J. (2017). PennDOT: Highway Incident Timeline Detection. Philadelphia, Pennsylvania, USA.
465. Obeid, I., Picone, J., & Harabagiu, S. (2017). Automatic discovery and processing of EEG cohorts from clinical records. Philadelphia, Pennsylvania, USA.
466. Golmohammadi, M. (2017). STTR Phase I: Real-time Automatic Analysis of Electroencephalograms in an Intensive Care Environment Using Deep Learning. Philadelphia, Pennsylvania, USA.
467. Obeid, I., & Picone, J. (2016). NSF ICORPS Team: AutoEEG. Philadelphia, Pennsylvania, USA.
468. Obeid, I., Picone, J., & Harabagiu, S. (2016). Automatic discovery and processing of EEG cohorts from clinical records. Philadelphia, Pennsylvania, USA.
469. Obeid, I., & Picone, J. (2016). The Neural Engineering Data Consortium: Building Community Resources to Advance Research. Philadelphia, Pennsylvania, USA.
470. Golmohammadi, M., & Picone, J. (2016). STTR Phase I: Real-time Automatic Analysis of Electroencephalograms in an Intensive Care Environment Using Deep Learning (Progress: 20161101). Philadelphia, Pennsylvania, USA.
471. Golmohammadi, M., & Picone, J. (2016). STTR Phase I: Real-time Automatic Analysis of Electroencephalograms in an Intensive Care Environment Using Deep Learning (Progress: 20161201). Philadelphia, Pennsylvania, USA.
472. Won, C.-H., & Picone, J. (2016). TUES 1: Enhancing an Open Laboratory-Based Circuits Experience with a Virtual Laboratory Assistant. Philadelphia, Pennsylvania, USA.
473. Obeid, I., & Picone, J. (2015). Neural Engineering Data Consortium. Philadelphia, Pennsylvania, USA.
474. Obeid, I., & Picone, J. (2015). Big Data Archive for EEG Brain Machine Interface. Philadelphia, Pennsylvania, USA.
475. Obeid, I., Jacobson, M., & Picone, J. (2015). Automatic Generation of EEG Reports Using Deep Learning (Progress: 20150531). Philadelphia, Pennsylvania, USA.
476. Obeid, I., & Picone, J. (2014). Neural Engineering Data Consortium. Philadelphia, Pennsylvania, USA.
477. Obeid, I., Jacobson, M., & Picone, J. (2014). Automatic Generation of EEG Reports Using Deep Learning. Philadelphia, Pennsylvania, USA.
478. Obeid, I., & Picone, J. (2014). Neural Engineering Data Consortium. Philadelphia, Pennsylvania, USA.
479. Obeid, I., & Picone, J. (2014). Big Data Archive for EEG Brain Machine Interface. Philadelphia, Pennsylvania, USA.
480. Picone, J. (2013). The Neural Engineering Data Consortium / Fundamentals of Speech Recognition (pp. 1–27). Philadelphia, Pennsylvania, USA.
481. Obeid, I., & Picone, J. (2013). Big Data Archive for EEG Brain Machine Interface. Philadelphia, Pennsylvania, USA.
482. Harati, A., & Picone, J. (2012). Keyword Search Assessment. Philadelphia, Pennsylvania, USA.

483. Williams, C., Godbold, G., & Picone, J. (2009b). Portable Medical Voice Recorder. Oxford, Mississippi, USA.
484. Williams, C., Godbold, G., & Picone, J. (2009a). Portable Medical Voice Recorder. Oxford, Mississippi, USA.
485. Lazarou, G., & Picone, J. (2009). Nonlinear Statistical Modeling of Speech. Mississippi State, Mississippi, USA.
486. Lazarou, G., & Picone, J. (2008). Nonlinear Statistical Modeling of Speech. Mississippi State, Mississippi, USA.
487. Lazarou, G., & Picone, J. (2007). Nonlinear Statistical Modeling of Speech. Mississippi State, Mississippi, USA.
488. Picone, J. (2006). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
489. Picone, J. (2006). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
490. Baca, J., Lazarou, G., & Picone, J. (2006). Faculty Activity Report. Mississippi State, Mississippi, USA.
491. Lazarou, G., & Picone, J. (2006). Nonlinear Statistical Modeling of Speech. Mississippi State, Mississippi, USA.
492. Baca, J., Lazarou, G., & Picone, J. (2005). Faculty Activity Report. Mississippi State, Mississippi, USA.
493. Picone, J. (2005). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
494. Picone, J., & Lazarou, G. (2005). Nonlinear Statistical Modeling of Speech. Mississippi State, Mississippi, USA.
495. Picone, J. (2004). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
496. Picone, J. (2003). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
497. Picone, J. (2002). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
498. Picone, J. (2002). Internet Accessible Speech Technology. Mississippi State, Mississippi, USA.
499. Hamaker, J., & Picone, J. (2002). A Proposal for a Standard Partitioning of the OGI Alphadigits Corpus. Mississippi State, Mississippi, USA.
500. Parihar, N., & Picone, J. (2002). DSR Front End LVCSR Evaluation AU/384/02. Mississippi State, Mississippi, USA.
501. Alphonso, I., Deitenbeck, E., Huang, K., Parihar, N., & Picone, J. (2001). Enhanced Acoustic Modeling for a Free Speech to Text System. Mississippi State, Mississippi, USA.
502. Zheng, F., & Picone, J. (2001). Robust Low Perplexity Voice Interfaces. Mississippi State, Mississippi, USA.

503. Alphonso, I., Deitenbeck, E., Huang, K., Parihar, N., & Picone, J. (2001). Enhanced Acoustic Modeling for a Free Speech to Text System. Mississippi State, Mississippi, USA.
504. Picone, J. (2001). Information Access to Spoken Documents. Mississippi State, Mississippi, USA.
505. Zheng, F., & Picone, J. (2001). Robust Low Perplexity Voice Interfaces. Mississippi State, Mississippi, USA.
506. Alphonso, I., Deitenbeck, E., Huang, K., Parihar, N., & Picone, J. (2001). Enhanced Acoustic Modeling for a Free Speech to Text System. Mississippi State, Mississippi, USA.
507. Picone, J. (2001). Internet Accessible Speech Technology. Mississippi State, Mississippi, USA.
508. Zheng, F., & Picone, J. (2001). Robust Low Perplexity Voice Interfaces. Mississippi State, Mississippi, USA.
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657. Somaru, P., Obeid, I., & Picone, J. Low-Cost High-Performance Computing Via Consumer GPUs. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
658. Theiss, M., Krome, E., Golmohammadi, M., Obeid, I., & Picone, J. Enhanced Visualizations for Improved Real-Time EEG Monitoring. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.

659. Gross, A., Lopez, S., Obeid, I. & Picone, J. Statistical Comparison of REF vs. LE Referenced EEG Signals. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
660. McHugh, J., Ziyabari, S., Golmohammadi, M., Obeid, I., & Picone, J. Integrated Feature Extraction for HMM-Based Recognition Systems. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
661. Andrade, M., Shah, V., Golmohammadi, M. Obeid, I., & Picone, J. Real-time Seizure Detection Using Hidden Markov Models. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
662. Goncalves, F., Suarez, G., Obeid, I., & Picone, J. (2015). Generation of EEG Channels Using Spatial Interpolation. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
663. Da Rocha Garrit, P. H., Guimaraes Moura, A., Obeid, I., & Picone, J. (2015). Wavelet Analysis for Feature Extraction on EEG Signals. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University (p. 1). Philadelphia, Pennsylvania, USA.
664. Goncalves, F., Suarez, G., Obeid, I., & Picone, J. (2015). Generation of EEG Channels Using Spatial Interpolation. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
665. Guimaraes Moura, A., Obeid, I., & Picone, J. (2015). Feature Extraction Methods for EEG Event Detection. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University (p. 1). Philadelphia, Pennsylvania, USA.
666. Macedo Soares, J., Goncalves, F., Obeid, I., & Picone, J. (2015). EEG Recognition Using The Kaldi Speech Recognition Toolkit. NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University (p. 1). Philadelphia, Pennsylvania, USA.
667. Suarez, G., Macedo Soares, J., López, S., Obeid, I., & Picone, J. (2015). A Machine Learning Approach to Automated Identification of Abnormal EEGs. In NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University (p. 1). Philadelphia, Pennsylvania, USA.
668. Trejo, D., Obeid, I., & Picone, J. (2015). Affordable Supercomputing Using Open Source Software. In NEDC Summer Research Experience for Undergraduates, Department of Electrical and Computer Engineering, Temple University. Philadelphia, Pennsylvania, USA.
669. Golmohammadi, M. (2015). AutoEEG: Automatic Interpretation of EEGs Using Big Data. In Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
670. Jungries, D., Jacobson, M., Obeid, I., & Picone, J. (2015). Computer Detection of Abnormal Electroencephalography. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.

671. López, S., Obeid, I., & Picone, J. (2015). The Temple University Hospital EEG Corpus (TUH EEG). Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
672. López, S., Harati, A., Obeid, I., & Picone, J. (2014). Automatic Interpretation of EEGs Using Big Data. Temple University College of Engineering Research Experience for Undergraduates Conference (p. 1). Philadelphia, Pennsylvania, USA.
673. Harati, A., & Picone, J. (2013). Assessing Search Term Strength in Spoken Term Detection. Temple University College of Engineering E-Week Poster Competition.
674. Steinberg, J., & Picone, J. (2013). Variational Inference Algorithms for Acoustic Modeling in Speech Recognition. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
675. Lu, S., & Picone, J. (2013). Fingerspelling Recognition based on Sub-gesture Hidden Markov Models. Temple University College of Engineering E-Week Poster Competition.
676. Harati, A., Picone, J., & Sobel, M. (2012). Applications of Dirichlet Process Mixtures to Speaker Adaptation. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
677. Lu, S., & Picone, J. (2012). A Review of American Sign Language (ASL) Recognition. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
678. Steinberg, J., & Picone, J. (2012). An Introduction to Mandarin Speech Recognition. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
679. Harati, A., & Picone, J. (2011). Application of Particle Swarm Optimization to Parameter Estimation for Hidden Markov Models. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.
680. Harati, A., & Picone, J. (2010). Quality Assessment For Search Terms in Spoken Term Detection (STD) Systems. Temple University College of Engineering E-Week Poster Competition. Philadelphia, Pennsylvania, USA.

**WORKSHOPS
ORGANIZED
AND HOSTED**

1. Obeid, I., & Picone, J. (2014-Present). IEEE Signal Processing in Medicine and Biology Symposium. Philadelphia, Pennsylvania, USA.
2. Obeid, I., & Picone, J. (2013). Advancing Neural Engineering Through Big Data. Austin, Texas, USA: Symposium, IEEE Global Conference on Signal and Information Processing, December 2013.
3. Thurston, D., & Picone, J. (2011). Joint Rail Conference. Philadelphia, Pennsylvania, USA, April 2011.
4. Speech Recognition System Training Workshop, University of Texas at Dallas, Dallas, Texas, USA January 2003 (three-day condensed workshop).
5. Speech Recognition System Training Workshop, Mississippi State, Mississippi, USA May 2002 (one-week workshop; sponsored by the National Science Foundation).
6. Speech Recognition System Design Review, Mississippi State, Mississippi, USA January 2002 (two-day workshop; sponsored by the National Science Foundation).

7. Speech Recognition System Training Workshop, Mississippi State, Mississippi, USA May 2001 (one-week workshop; sponsored by the National Science Foundation).
8. Speech Recognition System Design Review, Mississippi State, Mississippi, USA January 2001 (two-day workshop; sponsored by the National Science Foundation).
9. Speech Recognition System Training Workshop, Mississippi State, Mississippi, USA May 2000 (one-week workshop; sponsored by the National Science Foundation).
10. Humans, Computers, and Speech, American Association for the Advancement of Science, Washington, D.C., February 2000 (half-day series of seminars).
11. Speech Recognition System Design Review, Mississippi State, Mississippi, USA January 2000 (two-day workshop; sponsored by the National Science Foundation).
12. International Conference on Acoustics, Speech, and Signal Processing, Phoenix, Arizona, USA, March 1999 (co-Technical Program Chair).
13. IEEE Automatic Speech Recognition and Understanding Workshop, Santa Barbara, California, USA, December 1997 (Publicity Chair; also provided infrastructure and web support).
14. Fundamental of Speech Recognition, Media Technologies Laboratory, DSPS Research and Development Center, *Texas Instruments*, May 1996 (three-day short course).
15. IEEE Automatic Speech Recognition Workshop, Snowbird, Utah, USA, 1995.

**PROPOSALS
AWARDED**

Directly contributed to over \$25M in total awards. (This does not include significant Intelligence Community funding generated while at NSA, contributions to university-wide congressional initiatives, and several sizeable endowments generated through our entrepreneurship thrust.)

1. Picone, J., & Obeid, I. (2025, April 24). Exploiting Quantum Entanglement in Machine Learning. STEM Research Grants, Temple University, \$75K, September 1, 2025 - August 31, 2026.
2. Parker, A., Smith, H., Buttar, B., & Picone, J. (2024, September 13). CIRC: Planning C: Community Three-Dimensional Image Infrastructure for Sustainable Innovation in Biofilm Research. Community Infrastructure for Research in Computer and Information Science and Engineering (CIRC), National Science Foundation, \$100K, July 1, 2025 - December 31, 2026.
3. Obeid, I., & Picone, J. (2023). Rapid and Inexpensive Precision Breast Cancer Screening Using Machine Learning. PA Breast Cancer Coalition Breast and Cervical Cancer Research Initiative, State of Pennsylvania, \$100K, January 1, 2024 - December 31, 2024.
4. Picone, J., & Obeid, I. (2023). Rapid Annotation of EEG Corpora. Natus Medical Incorporated, \$50K, January 1, 2024 - December 31, 2024.
5. Koshka, Y., & Picone, J. (2021). FET: Medium: A Quantum Computing Based Approach to Undirected Generative Machine Learning Models (p. 65). CCF: Foundations of Emerging Technologies (FET), Division of Computing and Communication Foundations (CISE/CCF), National Science Foundation, Award No. 2211841, \$937,247, May 16, 2022 - May 15, 2025.

6. Tukel, C., Queisser, G., Picone, J., & Buttaro, B. (2021). Modeling Movement through Heterologous Biofilm Structures for Improved Antibiotic Delivery (p. 45). Catalytic Collaborative Funding Initiative (CAT), Temple University, \$195K, July 1, 2021 - June 30, 2023.
7. Obeid, I., Dragut, E., Persidsky, Y., Connolly, D., Picone, J., Jhala, N., Wu, H., & Gong, Y. (2021). Automatic Interpretation of Digital Pathology Images Using Deep Learning (p. 59). Catalytic Collaborative Funding Initiative (CAT), Temple University, \$520K, January 1, 2022 - December 31, 2023.
8. Shah, V. (2020). Improved Segmentation for Automated Seizure Detection Using Channel-Dependent Posteriors. Dissertation Completion Grant, Temple University, \$10K, January 1, 2021 – May 15, 2021.
9. Kim, A., Liu, H., & Picone, J. (2020). Collaborative Research: Smart Stent for Post-Endovascular Aneurysm Repair Surveillance. Communications, Circuits and Sensing Systems (CCSS), National Science Foundation, Award No. 2029077, \$300K, September 1, 2020 – August 31, 2023.
10. Obeid, I., & Picone, J. (2019). Real-time Analysis of Electroencephalograms in an Intensive Care Environment - REU Supplement. IIP Advancing Innovation Research, National Science Foundation, \$16K, March 2, 2020 – March 1, 2021.
11. Obeid, I., & Picone, J. (2019). CCRI: Planning: Digital Pathology Research Consortium. CISE Community Research Infrastructure (CCRI), National Science Foundation, \$100K, January 1, 2020 – June 30, 2021.
12. Obeid, I., & Picone, J. (2018). Real-time Analysis of Electroencephalograms in an Intensive Care Environment. IIP Advancing Innovation Research, National Science Foundation, \$200K, August 1, 2018 - January 31, 2020.
13. Picone, J., & Abboud, B. (2017). PennDOT: Agent Training Study. Pennsylvania Department of Transportation, \$270K, March 26, 2018 - March 25, 2019.
14. Jacobson, M., Obeid, I., & Picone, J. (2017). Enabling the Application of Deep Learning to Automated Seizure Detection. Pennsylvania Commonwealth Universal Research Enhancement (PA-CURE), Department of Health, State of Pennsylvania, \$150K, July 1, 2017.
15. Camaratta, J., Obeid, I., & Picone, J. (2016). BioSignal Analytics Phase IV Ventures Application. Phase IV Ventures, University City Science Center, \$225K, November 23, 2016.
16. Coe, J., Picone, J., & Abboud, B. (2016). PennDOT: Highway Incident Detection Timeline. Pennsylvania Department of Transportation (PennDOT), \$175K, September 1, 2016.
17. Picone, J., Obeid, I., & Harabagiu, S. (2016). Automatic discovery and processing of EEG cohorts from clinical records (supplemental request). National Institute of Neurological Disorders and Stroke, National Institutes of Health, \$389K, October 1, 2016.
18. Golmohammadi, M., Obeid, I., & Picone, J. (2016). STTR Phase I: Real-time Automatic Analysis of Electroencephalograms in an Intensive Care Environment Using Deep Learning, Small Business Technology Transfer Program Phase I, National Science Foundation, \$224K, July 1, 2016.

19. Picone, J., Obeid, I., & Harabagiu, S. (2015). Automatic discovery and processing of EEG cohorts from clinical records. National Institute of Neurological Disorders and Stroke, National Institutes of Health, \$1.4M, June 1, 2015.
20. Obeid, I., & Picone, J. (2015). NSF ICORPS Team: AutoEEG. NSF Innovation Corps (I-CORPS), National Science Foundation, \$50K, May 15, 2015.
21. Obeid, I., & Picone, J. (2014). The Neural Engineering Data Consortium (REU Supplement). CISE Computing Research Infrastructure Program, National Science Foundation, \$16K, October 15, 2014.
22. Obeid, I., Jacobson, M., & Picone, J. (2013). Automatic Generation of EEG Reports Using Deep Learning. QED Proof-of-Concept Program, University City Science Center, \$100K, January 1, 2014.
23. Won, C.-H., Picone, J., Butz, B., & Biswas, S. (2012). Enhancing an Open Laboratory-Based Circuits Experience with a Virtual Laboratory Assistant. Transforming Undergraduate Education in Science (TUES), National Science Foundation, \$200K, July 15, 2013.
24. Obeid, I., & Picone, J. (2013). Big Data Archive for EEG Brain Machine Interface. Microsystems Technology Office, Defense Advanced Research Projects Agency (DARPA), \$75K, May 21, 2013.
25. Obeid, I., & Picone, J. (2012). Neural Engineering Data Consortium. CISE Computing Research Infrastructure Program, National Science Foundation, \$100K, October 23, 2012.
26. Picone, J. (2013). Faculty Sabbatical Application. College of Engineering, Temple University, August 15, 2013.
27. Steinberg, J., & Picone, J. (2012). A Comparison of Interface Algorithms in Dirichlet Process Mixture Models. LDC Data Scholarship, The Linguistic Data Consortium, University of Pennsylvania, \$3K, September 15, 2012.
28. Picone, J., & Obeid, I. (2012). An Automated Game Call Trainer. Rocky LeFlore Enterprises, Inc., \$5K, August 14, 2012.
29. Picone, J., Biswas, S., Lin, M., & Silage, D. (2012). Enhancing the Open Lab Experience in ECE. College of Engineering, Temple University, \$245K, June 01, 2012.
30. Picone, J. (2009). Start-up Funding. College of Engineering, Temple University, \$200K, July 1, 2009.
31. Picone, J. (2007). Intergovernmental Personnel Act (IPA). Language Technology Program Management Office (HLT PMO), National Security Agency, \$208K, January 1, 2007 - December 31, 2007.
32. Baca, J., Lazarou, G., & Picone, J. (2006). Human-Computer Interaction: Mobile Computing Usability. Center for Advances Vehicular Systems, Mississippi State University, \$97K, April 23, 2007.
33. Lazarou, G., Picone, J., & Rowland, Z. (2006). Vehicle Performance Monitoring System for Data Acquisition. Center for Advances Vehicular Systems, Mississippi State University, \$150K, December 5, 2006 - December 4, 2008.

34. Picone, J. (2006). Intergovernmental Personnel Act (IPA). Language Technology Program Management Office (HLT PMO), National Security Agency, \$208K, January 1, 2006 - December 31, 2006.
35. Picone, J. (2005). Intergovernmental Personnel Act (IPA). Human Language Technology Program Management Office (HLT PMO), National Security Agency, \$209K, January 1, 2005 - December 31, 2005.
36. Picone, J., & Lazarou, G. (2005). Nonlinear Statistical Modeling of Speech. Human Language and Communication (HLC) REU Supplement, National Science Foundation, \$12K, March 11, 2005 - March 10, 2006.
37. Lazarou, G., Picone, J., & Rowland, Z. (2004). Campus Bus Networking. Center for Advanced Vehicular Systems / MS State Department of Transportation, Mississippi State University, \$200K, April 15, 2004 - April 15, 2005.
38. Picone, J. (2004). Nonlinear Statistical Modeling of Speech. Human Language Communication (HLC), National Science Foundation, \$450K, January 8, 2004 - August 31, 2008.
39. Picone, J., & Lazarou, G. (2004). Peer-to-peer Vehicle Communications Systems. Technology and Engineering, American Trucker Associations, \$315K, December 15, 2004 - December 14, 2008.
40. Picone, J., & Parihar, N. (2004). Robust Speech Recognition For Practical Applications. Research Division, Conversay Incorporated, \$20K, August 15, 2004.
41. Lawrence, D., Edwards, T., King, R., Plodinec, J., Lazarou, G., & Picone, J. (2003). SCAMP: Scalable Autonomous Multipurpose Unmanned Aerial Vehicle. Congressional Initiatives, Mississippi State University, \$15M, December 19, 2003.
42. Picone, J. (2003). Information Access to Spoken Documents. Information Technology Research (ITR) INT Supplement, National Science Foundation, \$8.2K, April 11, 2003 - April 10, 2004.
43. Picone, J., & Ostendorf, M. (2003). Information Access to Spoken Documents. Information Technology Research (ITR) REU Supplement, National Science Foundation, \$12K, April 9, 2003 - April 8, 2004.
44. Picone, J. (2002b). Mandarin Chinese Speech Transcription Tools. Human Language Technology Research, Department of Defense, \$16K, January 15, 2002 - May 15, 2002.
45. Picone, J. (2002a). Research Experience for Undergraduates. National Science Foundation, \$6K, September 1, 2002 - August 31, 2003.
46. Baca, J., & Picone, J. (2002). Dialog Systems For Automotive Applications. Center For Advanced Vehicular Systems, Mississippi State University, \$50K, August 15, 2002 - August 15, 2003.
47. Picone, J., & Ostendorf, M. (2002). Information Access to Spoken Documents. Information Technology Research (ITR) REU Supplement, National Science Foundation, \$21K, March 15, 2002 - March 14, 2003.
48. Muir, K., & Picone, J. (2001). Bulldog Stock Exchange. Schillig Special Teaching Projects Program, Mississippi State University, \$3K, February 16, 2001 - May 15, 2001.

49. Picone, J. (2001). Acoustic Front End Evaluation. Aurora Working Group, European Telecommunications Standards Institute (ETSI), \$15K, April 10, 2001 - May 15, 2002.
50. Picone, J. (2000b). Speech-to-Text Resources. Human Language Technology Research, Department of Defense, \$109K, September 18, 2000 - September 30, 2001.
51. Picone, J. (2000a). Robust Low Perplexity Voice Interfaces. Signal Processing Research, MITRE Corporation, \$34K, October 24, 2000 - August 15, 2001.
52. Picone, J., & Lane, M. (2000). Towards a Collaborative Workspace For Senior Design. Hearin Research Council, Mississippi State University, \$20K, August 3, 2000 - December 15, 2000.
53. Picone, J., Charniak, E., Johnson, M., Jelinek, F., & Khudanpur, S. (2000). Integrating Prosody, Speech Recognition, Parsing in Spoken-Language Information Retrieval. Information Technology Research (ITR), National Science Foundation, \$1400K, January 5, 2000 - September 30, 2005.
54. Picone, J. (1999d). Application of Forest Image Analysis to Monitoring and Modeling of Psychological, Silvicultural, and Wildlife Habitat Attributes. USFS Southern Research Station, United States Forestry Service, \$13K, August 1, 1999 - December 15, 1999.
55. Picone, J. (1999c). The 1999 Summer Workshop Planning Meeting. Center for Language and Speech Processing, The Johns Hopkins University, \$1K, October 28, 1999 - October 31, 2000.
56. Picone, J. (1999b). Enhanced Acoustic Modeling For A Free Speech To Text System. Human Language Technology Research, Department of Defense, \$200K, October 20, 1999.
57. Picone, J. (1999a). An NSF Workshop: Language Engineering for Students and Professionals Integrating Research and Education. Center for Language and Speech Processing, The Johns Hopkins University, \$25K, February 1, 1999 - August 15, 1999.
58. Picone, J. (1998e). The 1998 Summer Workshop Planning Meeting. Center for Language and Speech Processing, The Johns Hopkins University, \$1K, October 28, 1998 - October 31, 1999.
59. Picone, J. (1998d). An NSF Workshop: Language Engineering for Students and Professionals Integrating Research and Education. Center for Language and Speech Processing, The Johns Hopkins University, \$20K, February 1, 1998 - August 15, 1998.
60. Picone, J. (1998c). Applications of High Performance Statistical Modeling to Image Analysis. USFS Southern Research Station, United States Forestry Service, \$13K, August 15, 1998 - December 15, 1998.
61. Picone, J. (1998b). Core Speech-To-Text Technology Development. Human Language Technology Research, Department of Defense, \$175K, October 1, 1998 - September 30, 1999.
62. Picone, J. (1998a). Public Domain Speech Recognition Technology. CISE Advanced Resources for Experiments (CARE), National Science Foundation, \$1.1M, January 1, 1998 - September 30, 2004.

63. Picone, J., & Deshmukh, N. (1998). Improved Prediction of Monosyllabic Words Using Confidence Measures and Dynamic Language Modeling. Human Language Technology Research, Department of Defense, \$60K, March 13, 1998.
64. Picone, J., Hamaker, J., & Ganapathiraju, A. (1998). Improved Acoustic Modeling using Information Theoretic Approaches to State-Dependency Modeling. Human Language Technology Research, Department of Defense, \$61K, March 14, 1998.
65. Picone, J. (1997f). Fast Recognition Techniques for Large Vocabulary Recognition. Computer Science Center, Texas Instruments, \$25K, December 20, 1997 - December 31, 1998.
66. Picone, J. (1997e). An Internet-Based Speech-to-Text Public Domain Toolkit. Human Language Technology Research, Department of Defense, \$166K, December 20, 1997.
67. Picone, J. (1997d). Dictionary Translation for Prosodic Data Marking. Waterways Experiment Station, U.S. Army Corps of Engineers, \$8.5K, January 15, 1997.
68. Picone, J. (1997c). An Internet-Based Speech-to-Text Public Domain Toolkit. Human Language Technology Research, Department of Defense, \$150K, November 20, 1997.
69. Picone, J. (1997b). Improved Syllable-Based Speech Recognition on Switchboard. Human Language Technology Research, Department of Defense, \$46K, December 7, 1997 - August 15, 1998.
70. Picone, J. (1997a). The 1997 Summer Workshop Planning Meeting. Center for Language and Speech Processing, The Johns Hopkins University, \$1K, October 28, 1997 - October 31, 1997.
71. Picone, J., & Ganapathiraju, A. (1997). Syllable-Based Speech Recognition. Center for Language and Speech Processing, The Johns Hopkins University, \$70K, February 1, 1997 - August 15, 1997.
72. Picone, J., & Rudis, V. (1997). Forest Structure Pattern Recognition of Amenity Impacts from Alternative Timber Cutting Practices. USFS Southern Research Station, United States Forestry Service, \$8.5K, August 15, 1997 - December 15, 1997.
73. Picone, J. (1996b). Marking Prosodic Data. Waterways Experiment Station, U.S. Army Corps of Engineers, \$5.3K, June 22, 1996 - August 31, 1996.
74. Picone, J. (1996a). Chaotic Statistical Models in Speech Recognition. Computer Science Center, Texas Instruments, \$20K, September 1, 1996 - August 15, 1997.
75. Molen, G. M., & Picone, J. (1996). High Speed Computer Networking To Support Advanced Computer-Aided Instruction. Alcoa Educational Foundation, Alcoa Foundation, \$50K, August 15, 1996 - December 15, 1996.
76. Picone, J., & Rudis, V. (1996). Forest Structure Pattern Recognition of Amenity Impacts from Alternative Timber Cutting Practices. USFS Southern Research Station, United States Forestry Service, \$9.7K, August 15, 1996 - December 15, 1996.
77. Picone, J. (1995b). Automatic Generation of N-Best Proper Name Pronunciations. Computer Science Center, Texas Instruments, \$33K, December 1, 1995 - December 31, 1996.

78. Picone, J. (1995a). Undergraduate Communication Systems Prototyping Laboratory. HP Educational Foundation, Hewlett-Packard Company and Applied Materials, Inc., \$275K, October 10, 1995 - December 31, 1996.
79. Picone, J., & Ebel, W. (1995). A Sun Sparcstation-Based Speech Data Collection Platform. Linguistic Data Consortium, University of Pennsylvania, \$81K, January 30, 1995 - December 31, 1996.
80. Picone, J. (1994). Start-up Funding. Department of Electrical and Computer Engineering, Mississippi State University, \$30K, August 15, 1994 - August 14, 1996.
81. Picone, J., & King, R. (1994). Automatic Generation of N-Best Proper Name Pronunciations. Computer Science Center, Texas Instruments, \$56K, December 15, 1994 - December 31, 1995.

**PROPOSALS
SUBMITTED**

1. Alibeik, M., Obeid, I., & Picone, J. (2025, August 15). Smart Manufacturing of Electric Motors Intelligent Fault Detection and Predictive Maintenance Systems for Next—Generation Electric Motor Manufacturing. EEC - EWFD-Eng Workforce Development, Research Experiences for Undergraduates (REU), National Science Foundation, \$448K, May 20, 2026 - May 19, 2029.
2. Picone, J., & Obeid, I. (2025, June 26). Precision Breast Cancer Detection in High Resolution Digital Pathology Using Hierarchical Self-Attention and Lightweight Microsegmentation. Funding Level 2 - Population Science and Prevention Studies, Breast Cancer Research Program Breakthrough Award, Congressionally Directed Medical Research Programs (CDMRP), Department of Defense, \$1.7M, January 1, 2026 - December 31, 2028.
3. Picone, J., & Obeid, I. (2025, June 1). Annotation of the TUH EEG Epilepsy Corpus (TUEP). Neumarker, Inc., \$5.75K, September 1, 2025 - December 31, 2025.
4. Picone, J., & Obeid, I. (2025, May 22). Lightweight Multimodal Foundational Models for Physical Signal Understanding. Research Phase I Application, W. M. Keck Foundation, \$1.5M, June 30, 2027 - June 29, 2030.
5. Picone, J., & Obeid, I. (2025, April 17). Robust Segmentation of Signal Data Using Foundation Models. BlueSky Initiative, Temple University, \$125K, May 1, 2025 - April 30, 2027.
6. Wallace, E., Pang, A., Picone, J., & Obeid, Iyad, I. (2025, March 10). Advancing College Readiness for Equity in Math Education by AI-Driven Learning Tools in Philadelphia Schools. The Spencer Foundation, \$75K, June 1, 2025 - May 31, 2026.
7. Buttaro, B., Kepler, I., Grattepanche, J.-D., Picone, J., & Thundiyil, S. C. (2025, February 24). Formation of Microenvironments in Biofilms. Systems and Synthetic Biology, Division of Molecular and Cellular Biosciences, National Science Foundation, \$2.0M, January 1, 2026 - December 31, 2028.
8. Obeid, I., Spence, A., & Dames, P. (2024, November 11). NRT-AI: Neuro-AI Nexus—Developing Tomorrow’s Innovators in AI and Neuroscience. NSF Research Traineeship (NRT), National Science Foundation, \$3.0M, July 1, 2025 - June 30, 2029.
9. Desai, M., McKenzie, S., Tsetsou, S., & Picone, J. (2024). ASPIRE: Automated Seizure Prediction by Integrated Real-time EEG Evaluation. Infrastructure Grants, American Epilepsy Society, \$50K, July 1, 2024 - June 30, 2025.

10. Buttaro, B., Tukul, C., Queisser, G., & Picone, J. (2023). Formation of Microenvironments in Biofilms: Interplay between stress signal remodeling and heterologous rigid structures. Systems and Synthetic Biology, Division of Molecular and Cellular Biosciences, National Science Foundation, \$2.7M, May 15, 2024 - May 14, 2028.
11. Obeid, I., & Picone, J. (2023). SCH: Unsupervised Deep Learning for Segmentation of Digital Pathology Images. Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science, Directorate for Computer and Information Science and Engineering, National Science Foundation, \$1.2M, July 1, 2024 - June 30, 2028.
12. Won, C.-H., & Picone, J. (2023). SCH: Vibroacoustic Tactile Sensing System for Tumor Monitoring Using Deep Learning. Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science, Directorate for Computer and Information Science and Engineering, National Science Foundation, \$1.2M, July 1, 2024 - June 30, 2028.
13. Picone, J., McKenzie, S., T, Saneesh C., & A, Bharathi M. (2023). NSF-DST: RI: Small: Rare Event Detection and Prediction Using Long-Term Contextual Models. U.S. National Science Foundation (NSF) and the Department of Science and Technology (DST) of India Collaborative Research Opportunities, Directorate for Computer and Information Science and Engineering, National Science Foundation, \$600K, May 15, 2024 - May 14, 2027.
14. Obeid, I., & Picone, J. (2023). Rapid and Inexpensive Precision Breast Cancer Screening Using Machine Learning. PA Breast Cancer Coalition Breast and Cervical Cancer Research Initiative, State of Pennsylvania, \$100K, January 1, 2024 - December 31, 2024. (Download).
15. Picone, J., & Obeid, I. (2023). Rapid Annotation of EEG Corpora. Natus Medical Incorporated, \$50K, January 1, 2024 - December 31, 2024. (Download).
16. Won, C.-H., Caroline, D., & Picone, J. (2022). SCH: Vibroacoustic Tactile Imaging System for Personalized Tumor Characterization. Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science, Directorate for Computer and Information Science and Engineering, National Science Foundation, \$1.2M, July 1, 2023 - June 30, 2027. (Download).
17. Obeid, I., & Picone, J. (2022b). SCH: Unsupervised Deep Learning for Segmentation of Digital Pathology Images. Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science, Directorate for Computer and Information Science and Engineering, National Science Foundation, \$1.2M, June 1, 2023 - May 31, 2027. (Download).
18. McKenzie, S., Desai, M., & Picone, J. (2022). Detection and modulation of proictal states to treat epileptic seizures. Interdisciplinary Team Science Grant, National Institute of Health, \$4.4M, July 1, 2023 - September 30, 2028. (Download).
19. Obeid, I., & Picone, J. (2022a). Prostate Cancer Screening Using Whole Slide Digital Pathology and Deep Learning. Congressionally Directed Medical Research Programs (CDMRP), Department of Defense, \$1.5M, January 1, 2023 - December 31, 2025. (Download).

20. Souayah, N., Boufadel, M., Kiani, M., & Picone, J. (2022). Prognostic factors for neurological post-acute sequelae of SARS-CoV-2 infection (PASC). National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health, \$1.3M, January 1, 2023 - December 31, 2026.
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159. Picone, J., & Ebel, W. (1995d). The Application of Nonlinear Dynamics to Continuous Speech Recognition. Speech Technology BAA, Rome Labs, \$200K, February 16, 1995.
160. Picone, J., & Ebel, W. (1995c). Advanced Statistical Signal Modeling for Speech and Signal Processing. Combined Research-Curriculum Development (CRCD) Program, National Science Foundation, \$423K, March 29, 1995.

161. Picone, J. (1995b). Nonlinear Statistical Models With Applications In Speech Understanding and Pattern Recognition. CISE Instrumentation Grants, National Science Foundation, \$100K, August 1, 1995.
162. Picone, J., & Ebel, W. (1995b). Unconstrained Voice Interfaces for the Information Superhighway. High Performance Computing (HPC), National Science Foundation, \$782K, February 20, 1995.
163. Picone, J. (1995a). Nonlinear Statistical Modeling For Spoken Language Systems. Defense Experimental Program to Stimulate Competitive Research (DEPSCoR), State of Mississippi, \$700K, August 1, 1995.
164. Picone, J., & Ebel, W. (1995a). Improving Software Literacy in Undergraduate Signal Processing Curricula. Education Infrastructure, National Science Foundation, \$752K, March 1, 1995.
165. Picone, J., & Carter, B. (1995). Improved Authoring Tools Featuring Multimodal Interfaces Integrated In A Common Semantic Framework. Multidisciplinary University Research Initiatives (MURI), Office of Naval Research, \$1.6M, December 15, 1995.
166. Picone, J., & Deshmukh, N. (1995). Chaotic Statistical Models in Signal Processing. Circuits and Signal Processing, National Science Foundation, \$150K, November 12, 1995.
167. Trotter, D., Picone, J., & Russ, S. (1995). A Computer Engineering Extension Program. Institution for Higher Learning, State of Mississippi, \$3.5M, June 1, 1995.
168. Picone, J., & Ebel, W. (1994c). Engineering Research Equipment: Stochastic Computational Modeling Engine. Communications and Computational Systems (CCS) Program, National Science Foundation, \$100K, October 1, 1994.
169. Picone, J., & Ebel, W. (1994b). The Development of a Computer-Aided Undergraduate Digital Signal Processing Curriculum. Institutions of Higher Learning, State of Mississippi, \$10K, October 1, 1994.
170. Picone, J., & Ebel, W. (1994a). Introduction of Object-Oriented Methodologies in Digital Signal Processing Curricula. Instrumentation and Laboratory Improvement (ILI), National Science Foundation, \$270K, November 1, 1994.
171. Ebel, W., Younan, N., & Picone, J. (1994). Unstructured Spoken Language Interfaces for the Information Superhighway. Experimental Program to Stimulate Competitive Research (EPSCoR), State of Mississippi, \$1.5M, October 5, 1994.
172. Picone, J. (1994). Next Generation Statistical Methods in Digital Signal Processing. CISE Career Development, National Science Foundation, \$135K, October 1, 1994.
173. Picone, J., & Boggess, L. (1994). Unconstrained Voice Interfaces for the National Information Superhighway. Interactive Systems, National Science Foundation, \$626K, November 1, 1994.

**PATENTS
AWARDED**

1. J. Picone and B.J. Wheatley, "Voice Log-In Using Spoken Name Input," *US Patent No. 5293452*, March 8, 1994.
2. J. Picone, T. Staples, K. Kondo, N. Arai, "Processing System of Japanese Language," *Japanese Patent No. TIJ-18107*, June 29, 1993.

3. B.J. Wheatley and J. Picone, "Voice Recognition of Proper Names Using Text-Derived Recognition Models," *US Patent No. 5212730*, May 18, 1993.
4. C. Hemphill and J. Picone, "A Chart Parser for Stochastic Unification Grammars," *US Patent No. 4984178*, January 8, 1991.
5. W.T. Hartwell and J. Picone, "Automatic Speech Recognition Using Echo Cancellation," *US Patent No. 4914692*, April 3, 1990.
6. W.T. Hartwell, J. Picone, and D.P. Prezas, "A Digital Speech Coder With Different Excitation Types," *US Patent No. 4912764*, March 27, 1990.
7. J. Picone and D.P. Prezas, "A Parallel Processing Pitch Detector," *US Patent No. 4879748*, November 7, 1989.
8. J. Picone and G.R. Doddington, "A Very Low Rate Speech Encoder and Decoder," *US Patent No. 4815134*, March 21, 1989.
9. G.L. Lazarou, R. Lewis, W. Jenkins, Z. Rowland and J. Picone, "Vehicle Position and Performance Tracking System Using Wireless Communication," *US Patent Application No. 20060161315*, July 20, 2006 (provisional patent granted).

**PATENTS
SUBMITTED**

1. Chae, S., & Picone, J. (2015). Wearable Watch Detection and Alarm System for Driver's Drowsiness by (Heart Rate Variability) HRV. USA.
2. Golmohammadi, M., Obeid, I., & Picone, J. (2015). Retrieval of Patient EEG Records Based on EEG Signal Events. USA.
3. Harati Nejad Torbati, A. H., Obeid, I., & Picone, J. (2015). Enhanced Features for EEG Analysis. USA.
4. Harati Nejad Torbati, A. H., Obeid, I., & Picone, J. (2015). Information Theoretic Methods for Signal Interpretation in EEG Analysis. USA.
5. Harati Nejad Torbati, A. H., Obeid, I., & Picone, J. (2015). False Alarm Reduction in EEG Epoch Classification Using Deep Learning and Spatio/Temporal Context. USA.
6. Obeid, I., Picone, J., Harati Nejad Torbati, A. H., Tobochnik, S., & Jacobson, M.J. (2014). Automatic Interpretation of EEGs using Semi-Supervised Deep Learning. USA.
7. Lewis, R., Picone, J., Rowland, Z., Jenkins, W., & Lazarou, G. (2006). Vehicle position and performance tracking system using wireless communication. USA.
8. Picone, J., Staples, T., Kondo, K., & Arai, N. (1993). Processing System of Japanese Language. Japan.

**SOFTWARE
AND
OTHER
SIGNIFICANT
ARTIFACTS**

1. "The Institute for Signal and Information Processing," <http://www.isip.piconepress.com/> (our flagship web site that offers a number of valuable resources, including project web sites, academic coursework, data resources, tutorials, and many application toolkits).
2. The Neural Engineering Data Consortium," <http://www.nedcdata.org> (our primary web site for bioengineering-related data resources).
3. "Internet Accessible Speech Recognition Technology," <http://www.isip.piconepress.com/projects/speech> (one of the most internationally recognized speech processing web sites that includes one of the first and only public domain state of the art speech recognition system, coursework, tutorials, and many

other educational resources; the project was originally funded by the National Science Foundation and the Department of Defense).

4. "Speech and Signal Processing Demonstrations," <http://www.isip.piconepress.com/projects/speech/software/demonstrations/> (includes Java applets that demonstrate basic signal processing concepts, such as convolution, and advanced concepts such as pattern recognition).

**CAPSTONE
DESIGN
AND
OTHER
PROJECT
SUPERVISION**

Below are the projects I supervised in addition to my course-related advising obligations in senior design. Note that for many years I was the senior design instructor at both Temple University and Mississippi State University, and I interacted with several hundred senior design teams. I have also supervised a large number of students doing independent study and directed individual research as senior electives and graduate coursework. Much of this work is available on my web site (<http://www.isip.piconepress.com/courses>).

1. Korah, S., Lourng, B., Wolfendon, H., & Won, M. (2025). Building a Better Egg Cracker. Senior Design, College of Engineering, Senior Design, Department of Electrical and Computer Engineering, Temple University.
2. Boles, D., Georgi, S., Mullin, S., & Joseph, Z. (2025). An FPGA-Based Chess Demonstration. Senior Design, Department of Electrical and Computer Engineering, Temple University.
3. Lopez-Morel, R., McNicholas, S., Thai, B., & Toner, K. (2024). A Web-Enabled ISIP Machine Learning Demo. Senior Design, Department of Electrical and Computer Engineering, Temple University.
4. Bulik, A., M., Berman, L., & Nghiem, Y. (2024). Machine Learning in Digital Pathology. Temple University.
5. Paroya, A., Dewees, L., & Chau, A. (May 15, 2024). Cardiovascular Disease Detection Using 12-Lead Electrocardiogram (ECG) Machine Learning.
6. Bakum, C., High, B., & Antonio, N. (May 15, 2023). ARM-Based Coprocessor. Senior Design, Department of Electrical and Computer Engineering, Temple University.
7. Cap. T., Kreitzer, A., Miranda, M., & Vadimsky, D. (May 15, 2022). The ISIP Machine Learning Demo. Temple University.
8. Miranda, M. (December 15, 2020). The ISIP Machine Learning Demo. *Temple University*.
9. Jean-Paul, S. (May 15, 2019). The ISIP Machine Learning Demo. *Temple University*.
10. Vorwick, L. (May 15, 2019). Software Engineering for Signal Processing. *Temple University*.
11. Krome, E., Somaru, P., Islam, T., & Castelli, T. (May 15, 2017). Low Cost Internet Radio. *Temple University*.
12. Gault, S., Davis, S., Varghese, R., & Boggarapu, H. (December 15, 2016). ENF Signal Analysis. *Temple University*.
13. Dalal, A., Ki, A., Oommen, E., & Smith, A. (May 15, 2016). Foldable Self Parallel-Parking Car with Improved Parking Space Limitations. *Temple University*.

14. Ruff, K., O'Mullen, W., Douglas, D., & Joaquin, D. (May 15, 2016). The Incredible Edible Egg. *Temple University*.
15. Chong, K., López, S., Pham, J., & Sinclair, D. (May 15, 2016). A Compact Wireless Device for Continuous Patient Monitoring. *Temple University*.
16. Amin, K., Auchincloss, M., & Kilpatrick, S. (May 15, 2015). The Tech Jacket. *Temple University*.
17. Bagirov, T., Thorpe, R., & Smith, J. (May 15, 2015). A Surveillance Micro UAV Drone. *Temple University*.
18. Trovinger, A., Scheirer, G., Al-Baker, A., & Rea, M. (May 15, 2013). Solar-Powered UAV. *Temple University*.
19. Animasaun, K., Tenaud F., & Wilson, J. (December 15, 2012). Automated Drum Frequency Tuner. *Temple University*.
20. Fornah-DeLo, M., Jackson, C., Kapanougou, H., & Saunders, C. (December 15, 2012). Optimized Performance: Parallel Hybrid-Electric Drivetrain. *Temple University*. (co-advisor).
21. Graziano, J., & Souk, A. (May 15, 2012). Industrial Composite Support Structure. *Temple University*.
22. Gray, R., Leonetti, M., Moscato, A., & Sworob, A. (December 15, 2011). Perfect Pitch: Automatic Guitar Tuning with Improved Accuracy Using FFT's. *Temple University*.
23. Fava, G., Gregorio, J., Jackson, J., & McGovern, D. (May 15, 2011). Hybrid DSP/Vacuum Tube Amplifier. *Temple University*.
24. Morris, W., Obi, Z., & Ragbasingh, K. (May 15, 2010). Sustainable Re-Design of the Baptist Temple Lighting and Power Systems. *Temple University*.
25. Gonzalo, J., Harper, J., Mamistvalov, B., & Argenio, J. (December 15, 2010). Harnessing Wind Power for the Integration of Sustainable Energy in Temple University's Campus. *Temple University*.
26. Nowicki, G., Stanczyk, T., Pierre, R., & Doumbai, M. (December 15, 2010). Renewable Energy Using High-Efficiency Turbines. *Temple University*.
27. Noble, A., Cobbs, H., Puryear, L., & Warren, R. (May 15, 2002). Voice Activated Shower. *Mississippi State University*.
28. Bikkina, S. (May 1, 2000). Introduction to Digital Filter Design in C++. *Mississippi State University*.
29. Schlichter, T.J. (May 15, 1999). Digital Filter Design Using Matlab. *Mississippi State University*.
30. Brown, R. (May 15, 1998). Automatic Feedback Detection and Elimination System. *Mississippi State University*.
31. Brown, R., & Balakrishnama, S. (December 15, 1997). Scenic Beauty Estimation using Linear Discriminant Analysis. *Mississippi State University*.
32. Shaffer, J. (May 15, 1997). Spectrum Analysis Using Java. *Mississippi State University*.

33. Hamaker, J. (May 15, 1997). Interactive Frequency Response Analysis of Linear Systems Using Poles and Zeros. *Mississippi State University*.
34. Wheeler, E.S. (May 15, 1996). Graphical Convolution in Java. *Mississippi State University* (this project was significant because it led to my first major NSF research award. The applet is still in use today).
35. Weber, M.E. (May 15, 1996). Voice Interface to an On-Line Dictionary. *Mississippi State University*.

I also supervised 16 high school students who conducted research internships in our laboratory for high school credit. We have collaborated on such programs with the Mississippi School for Math and Science, located in Columbus, Mississippi, and several local magnet high schools in Philadelphia (e.g., North Central High School). Several of these students continued their studies in our research group as undergraduates, and one continued until all the way through completion of his M.S. degree in Computer Science (at MS State).

MENTORING

In addition to formally mentoring a number of young faculty at Mississippi State University and Temple University, and many undergraduates through the summer workshops at The Johns Hopkins University, I have mentored students in the following formal programs:

1. Pathways Summer Internship Program for High School Students, 2020 – Present.
2. Boys Latin Internship Program for High School Students, 2021 – Present.
3. Brazilian Student Summer Exchange Program, 2015, 2016.
4. National Consortium for Graduate Degrees for Minorities in Engineering and Science, Inc. (GEM), 1996, 2011.
5. Presidential Endowed Scholars, 1996, 2004.
6. AT&T Graduate Fellowship Program, 1998.
7. Quest Summer Research Program, Bagley College of Engineering, Mississippi State University, 2002 – 2004.
8. Computer Science, Engineering, and Mathematics (CSEM) Fellows Program, 2003.
9. Research Internships, The Mississippi School for Mathematics and Science, 1995 – 1998.

We always host a large number of high school students in the lab throughout the year. For example, in 2025, we mentored eight high school students including three from the Philadelphia public school system.

UNIVERSITY SERVICE

1. Graduate Program Coordinator, Department of Electrical and Computer Engineering, Fall 2025 – Present.
2. Graduate Board, Temple University, Fall 2016 – Summer 2019, Fall 2025 – Present.
3. Department of Electrical and Computer Engineering Promotion and Tenure Committee, Temple University, Fall 2012 – Spring 2018, Fall 2024 – Present.
4. College of Engineering Resource Planning Committee, Temple University, Fall 2025 – Present.

5. Research Policies and Program Committee, Temple University, Spring 2013 – Spring 2021.
6. Senate Committee on Administrative and Trustee Appointments, Temple University, Fall 2015 – Summer 2017.
7. University Promotion and Tenure Advisory Committee, Temple University, Spring 2013 – Spring 2020.
8. University Department Chair Orientation Committee, Spring 2013 – Fall 2013.
9. College of Engineering Merit Committee, Temple University, Fall 2012 – Spring 2016.
10. Department of Physical Therapy, College of Health Professions and Social Work, Temple University, Spring 2013.
11. Computer Services Advisory Board, Temple University, Spring 2011 – Fall 2012.
12. College of Engineering By-Laws Committee, Temple University, Fall 2011 – Spring 2016.
13. Sabbatical Review, Temple University, Fall 2009 – Spring 2012.
14. Signal Processing Emphasis Area, Department of Electrical and Computer Engineering, Mississippi State University, 2003 – 2009 (initiated and chaired this committee for the first year).
15. Graduate Seminar Series, Center for Advanced Vehicular Systems, Mississippi State University, 2003 – 2004.
16. Graduate Seminar Series, Department of Electrical and Computer Engineering, Mississippi State University, 2001 – 2003.
17. Awards Committee, Department of Electrical and Computer Engineering, Mississippi State University, 2001.
18. Laboratory Committee, Department of Electrical and Computer Engineering, Mississippi State University, 2000 – 2004.
19. Entrepreneurship Advisory Committee, College of Engineering, Mississippi State University, 2000.
20. Department of Mathematics and Statistics Internal Review, Office of the Provost, Mississippi State University, 2000 – 2001.
21. Brown Bag Luncheon Series on Physics, 2000-2002.
22. Technology Transfer Taskforce, Office of Research, Mississippi State University, 1999
23. Graduate Committee, Department of Electrical and Computer Engineering, Mississippi State University, 1999.
24. Electrical Engineering Software Requirements, Department of Electrical and Computer Engineering, Mississippi State University, 1999.
25. Computer Requirements Advisory Committee, College of Engineering, Mississippi State University, 1998 – 2004.
26. Recruiting Committee, Department of Electrical and Computer Engineering, Mississippi State University, 1998.

27. Faculty Research Advisory Council, Office of Research, Mississippi State University, 1995 – 1997.
28. Computer Planning Committee, Department of Electrical and Computer Engineering, Mississippi State University, 1995 – 1998.
29. Communications and Signal Processing Emphasis Area, Department of Electrical and Computer Engineering, Mississippi State University, 1994 – 2002.

**PROFESSIONAL
SERVICE**

Board of Directors, Strados Labs, 2018 – 2024.

Conference Chair, IEEE Signal Processing in Medicine and Biology Symposium, 2014 – Present.

Board of Directors, The Human Language Technology Center of Excellence, Johns Hopkins University, 2016 – 2021.

Symposium Chair, IEEE Global Conference on Signal and Information Processing, 2014.

Chair, IEEE Philadelphia Section Election Committee, 2013.

Co-organizer, Joint Rail Conference, 2012.

Co-organizer, 38th Annual Northeast Bioengineering Conference (NEBEC), 2012.

Advisor, IEEE Student Activities Conference, 2010.

Associate Editor, *EURASIP Journal on Audio, Speech and Music Processing*, 2003 – 2009.

Co-Technical Program Chair, IEEE International Conference on Acoustics, Speech and Signal Processing, 1999.

Associate Editor, *IEEE Transactions on Speech and Audio Processing*, 1994 – 1999.

Associate Editor, *IEEE Signal Processing Magazine*, 1993 – 1999.

Member, Speech Technical Committee, IEEE Signal Processing Society, 1994 – 1999.

Frequent reviewer for several National Science Foundation panels on Human Language Technology and related areas.

Frequent reviewer for the U.S. Army Research Laboratory and other government laboratories in the areas of speech and signal processing.

Frequent reviewer for internationally-recognized universities in the U.S. and abroad on Promotion and Tenure issues and on research solicitations.

Frequent reviewer for the *IEEE Transactions on Signal Processing*, *IEEE Signal Processing Letters*, *IEEE Transactions on Audio, Speech and Language Processing* (and its predecessors), *Speech Communication*, *Journal of the Acoustical Society of America*, and *Computers, Speech, and Language*.

Frequent session chair at the International Conference on Acoustics, Speech and Signal Processing, and the International Conference on Spoken Language Processing (INTERSPEECH).

Java Speech Application Programming Interface Working Group (v2.0), Spring 2002.

**PROFESSIONAL
MEMBERSHIPS**

Senior Member, IEEE Signal Processing Society, 1990 – Present

Member, IEEE Signal Processing Society, 1982 – 1990

Member, Eta Kappa Nu (HKN), 1995 – Present

Member, Upsilon Pi Epsilon (UPE), 1998 – Present

Member, Acoustical Society of America, 1985 – 1989

Professional Engineer, State of Texas, 1988 – 2005

Engineer in Training, State of Illinois, 1979 – 1988

AWARDS

IEEE Philadelphia Section – Member of the Year Award, 2022.

IEEE Chapter Faculty Award, Temple University, Spring 2011.

Hearin Eminent Scholar, Mississippi State University, 2001-2008

Nominated for IEEE Fellow (Signal Processing Society), 2000 and 2002

MSU/IMAGE Certification of Appreciation, Mississippi Alliance for Minority Participation, 1999

Hearin-Hess Professor of Engineering, Mississippi State University, 1995-1996, 1998-1999

Computer Science Center Outstanding Achievement Award, Texas Instruments, 1991

IEEE Communications Society Scholarship, Illinois Institute of Technology, 1980

Summa Cum Laude, Illinois Institute of Technology, 1979

Illinois State Scholar, Illinois Institute of Technology, 1975-1979