Curriculum Vitae

Dr. Bill Manaris
Professor, Computer Science Department
College of Charleston / University of Charleston, USA
http://manaris.org

Academic Credentials

Ph.D., Computer Science, Center for Advanced Computer Studies, University of Louisiana at Lafayette, Dec. 1990. Thesis Title: *A Formal Framework for the Development of Natural Language Interfaces to Operating Systems*. Thesis Advisor: Wayne D. Dominick.

M.S., Computer Science, Center for Advanced Computer Studies, University of Louisiana at Lafayette, May 1988.

B.S., Computer Science (electives in Music and Linguistics), University of New Orleans, May 1986.

Studies in Classical and Jazz Guitar, National Conservatory of Greece and Pindario Conservatory, 1976 – 1981.

Employment History

Director, Computing in the Arts Program, College of Charleston (Aug. 2012 – present).

Professor, Computer Science Department, College of Charleston (Aug. 2008 – present).

Associate Professor, Computer Science Department, College of Charleston (Aug. 2000 – Aug. 2008; tenured Mar. 2004).

Assistant Professor, Computer Science Department, University of Louisiana at Lafayette (Aug. 1994 – Aug. 2000; tenured Mar. 2000).

Affiliate Faculty Member, Institute for Cognitive Science, University of Louisiana at Lafayette (Feb. 1999 – Aug. 2000).

Assistant Professor, Department of Mathematics and Computer Science, Fayetteville State University, Fayetteville, North Carolina (Jul. 1993 – Jul. 1994).

Instructor, New York College (affiliated with State University of New York), Athens, Greece (Sep. 1991 – Jan. 1992).

Research Scientist, Computer Science, National Defense Research Center, Athens, Greece (May 1991 – Oct. 1992).

Instructor, Computer Science Department, University of Louisiana at Lafayette (Aug. 1988 – Dec. 1990).

Areas of Expertise

Research interests and expertise spans **computer music**, **human-computer interaction**, and **artificial intelligence**. Main focus on **interaction design** and modeling of **aesthetics and creativity**, with an emphasis on **statistical, connectionist, and evolutionary techniques** in computer music and art. The intersection of interaction design and computing in the arts provides great opportunities for innovative projects and cutting-edge exploration (see project descriptions / video demonstrations below). Earlier research focused on natural language processing and speech recognition. Also, on-going research in computer science education. This work has been supported in part by the National Science Foundation, Louisiana Board of Regents, Google, and IBM.

1. Computers, Music, and Art (with Video Demonstrations)

This research area focuses on **development of interactive artifacts** / interfaces, and user experiences, utilizing graphical user interfaces, motion-capture and myoelectric sensors (e.g., Kinect and Myo), and other interaction techniques (including MIDI and Open Sound Control). It is combined with **artificial intelligence techniques** (e.g., Markov models, artificial neural networks, and genetic algorithms). This research invites collaboration with visual artists, music composers, and explores how interactive experiences may be shaped by (and, in turn, help shape) music composition, immersive visual art, and interweaving of human performers and computer-based agents. This research has been **funded in part** by NSF (DUE-1323605, DUE-1044861, IIS-0736480, IIS-0849499 and IIS-1049554), Google, and IBM, and has produced several publications.

- **Sound Morpheus** – an innovative sound spatialization and shaping interface, which allows the placement of sounds in space, as well as the altering of sound characteristics, via arm movements that resemble those of a conductor (see http://bit.ly/soundmorpheus2);
- **Jython Music** – an environment for algorithmic music composition, dynamic coding, and exploration of computer-aided musical performativity (see http://jythonmusic.org);
- **Diving into Infinity** – a motion-based, immersive interface for M.C. Escher's works (see http://bit.ly/escherKinect);
- **Time Jitters** – a visual art installation which combines artificial intelligence and human-computer interaction techniques (see http://bit.ly/timeJitters);
- **Monterrey Mirror** – an experiment in interactive music performance combining evolutionary computation and Zipf's law (see http://bit.ly/montereymirror); and
- **Harmonic Navigator** – a novel, music analysis and composition system, exploring harmonic spaces in J.S. Bach chorales, and other music corpora (see http://bit.ly/harmonicnavigator).

2. Computer Science Education

Pedagogy research and curriculum development in Computing in the Arts (2007-present, e.g., see http://compsci.cofc.edu/nsf-cita-workshop.php); also in incorporating Human-Computer Interaction into computer science curricula (2003-2007, e.g., see http://www.cs.cofc.edu/hci); created an information resource for curriculum development and program enhancement for CSAB-accredited computer science degree programs (1996-2002); and focused on discovering / maintaining pedagogic resources for teaching Artificial Intelligence (AAAI educational resources coordinator from 1994-1998). This research has been **funded in part** by NSF (DUE-9752482, DUE-0226080, DUE-1044861, DUE-1323605) and AAAI, and has produced several publications.

Publications and Presentations

Books

1. B. Manaris and A.R. Brown, *Making Music with Computers: Creative Programming in Python*, Chapman & Hall/CRC Textbooks in Computing, pp. 502, May 2014.

Book Chapters

1. B. Manaris, P. Roos, D. Krehbiel, T. Zalonis, and J.R. Armstrong, "Zipf's Law, Power Laws and Music Aesthetics", in T. Li, M. Ogihara, G. Tzanetakis (eds.), *Music Data Mining*, pp. 169-216, CRC Press - Taylor & Francis, Jul. 2011.

2. P. Machado, J. Romero, and B. Manaris, "Experiments in Computational Aesthetics – An Iterative Approach to Stylistic Change in Evolutionary Art", In *The Art of Artificial Evolution*, pp. 381-416, Springer-Verlag, 2007.
3. B. Manaris, "Natural Language Processing: A Human-Computer Interaction Perspective", In *Advances in Computers* (Marvin V. Zelkowitz, ed.), vol. 47, pp. 1-66, Academic Press, New York, 1998.

Edited Collections

1. B. Manaris and P. Machado, *International Journal on Artificial Intelligence Tools* 15(4), special issue on "Artificial Intelligence in Music and Art", Aug. 2006.
2. B. Manaris, *Computer Science Education Journal* 13(3), special issue on "Human-Computer Interaction", Sep. 2003.
3. B. Manaris and J. Etheridge, *International Journal on Artificial Intelligence Tools* 10(2), special issue with Best Papers of FLAIRS-2000, Mar. 2001.
4. B. Manaris and J. Etheridge, Proceedings of the 13th International FLAIRS Conference (FLAIRS-2000), AAAI Press, May 2000.
5. B. Manaris and P. Marquis, *International Journal on Artificial Intelligence Tools* 6(4), special issue with Best Papers of ICTAI'96, Dec. 1997.
6. B. Manaris and P. Marquis, Proceedings of the 8th IEEE International Conference on Tools with Artificial Intelligence (ICTAI-96), IEEE Press, Nov. 1996.
7. B. Manaris and B. Slator, *IEEE Computer* 29(7), theme issue on "Interactive Natural Language Processing", Jul. 1996.

Journal Publications

1. B. Manaris, B. Stevens, and A.R. Brown "JythonMusic: An Environment for Teaching Algorithmic Music Composition, Dynamic Coding, and Musical Performativity", *Journal of Music, Technology & Education* 9(1), pp. 55-78, May 2016.
2. B. Manaris, D. Hughes, Y. Vassilandonakis, "Monterey Mirror: an experiment in interactive music performance combining evolutionary computation and Zipf's law", *Evolutionary Intelligence* 8(1), Springer-Verlag, pp. 23-35, Mar. 2015.
3. B. Manaris, J.R. Armstrong, T. Zalonis, and D. Krehbiel, "Armonique: a framework for Web audio archiving, searching, and metadata extraction", *International Association of Sound and Audiovisual Archives (IASA) Journal*, vol. 35, pp. 57-68, Jun. 2010.
4. B. Manaris, M. Wainer, A.E. Kirkpatrick, R.H. Stalvey, C. Shannon, L. Leventhal, J. Barnes, J. Wright, J. B. Schafer, D. Sanders, "Implementations of the CC'01 Human-Computer Interaction Guidelines using Bloom's Taxonomy", *Computer Science Education Journal* 17(1), pp. 21-57, Mar. 2007.
5. B. Manaris, J. Romero, P. Machado, D. Krehbiel, T. Hirzel, W. Pharr, and R.B. Davis, "Zipf's Law, Music Classification, and Aesthetics", *Computer Music Journal* 29(1), pp. 55-69, Mar. 2005.
6. B. Manaris, V. MacGyvers, and M. Lagoudakis, "A Listening Keyboard for Users with Motor Impairments – A Usability Study", *International Journal of Speech Technology* 5(4), Dec. 2002, pp. 371-388.

7. R. McCauley and B. Manaris. "An Information Resource for Computer Science Educators", *SIGCSE Bulletin* 32(2), Jun. 2000, pp. 25-29.
8. R. McCauley, U. Jackson and B. Manaris, "Establishing an Early Foundation in Software Engineering – Framework, Experiences and Results", *The Journal of Software Engineering Education* 88(4), pp. 403-408, Oct. 1999.
9. B. Manaris and B. Slator, "Interactive Natural Language Processing – Building on Success", *IEEE Computer* 29(7), pp. 28-32, Jul. 1996.
10. B. Manaris, "An Engineering Environment for Natural Language Interfaces", *International Journal on Artificial Intelligence Tools* 3(4), pp. 557-579, Dec. 1994.
11. B. Manaris and W. Dominick, "NALIGE: A User Interface Management System for the Development of Natural Language Interfaces", *International Journal of Man–Machine Studies* 38(6), pp. 891-921, Jun. 1993.

Peer-Reviewed Conference Publications (selected, 23 of 43)

1. C. Benson, B. Manaris, S. Stoudenmier, and T. Ward "SoundMorpheus: A Myoelectric-Sensor Based Interface for Sound Spatialization and Shaping", *Proceedings of the 16th International Conference on New Interfaces for Musical Expression (NIME 2016)*, Brisbane, Australia, Jul. 2016.
2. B. Manaris, and S. Stoudenmier, "Specter: Combining Music Information Retrieval with Sound Spatialization", *Proceedings of the 16th International Conference on Music Information Retrieval (ISMIR 2015)*, Málaga, Spain, Oct. 2015.
3. B. Manaris, D. Johnson, M. Rourk, "Diving into Infinity: A Motion-Based, Immersive Interface for M.C. Escher's Works", *Proceedings of the 21st International Symposium on Electronic Art (ISEA 2015)*, Vancouver, Canada, Aug. 2015.
4. D. Johnson, B. Manaris, Y. Vassilandonakis, and S. Stoudenmier, "Kuatro: A Motion-Based Framework for Interactive Music Installations", *Proceedings of the 40th International Computer Music Conference (ICMC 2014)*, Athens, Greece, Sep. 2014.
5. D. Johnson, B. Manaris, Y. Vassilandonakis, "Harmonic Navigator: An Innovative, Gesture-Driven User Interface for Exploring Harmonic Spaces in Musical Corpora", *Proceedings of 16th International Conference on Human-Computer Interaction* (HCII 2014), Heraklion, Crete, Greece, pp. 58-68, Jun. 2014.
6. D. Johnson, B. Manaris, Y. Vassilandonakis, "A Novelty Search and Power-Law-Based Genetic Algorithm for Exploring Harmonic Spaces in J.S. Bach Chorales", *Proceedings of the 3rd International Conference on Evolutionary and Biologically Inspired Music, Sound, Art and Design (EvoMUSART 2014)*, Granada, Spain, Apr. 2014.
7. R. McCauley, B. Manaris, M. Mazzone, W. Bares, "Computing in the Arts: A Model Curriculum", *Proceedings of the 45th ACM Technical Symposium on Computer Science Education (SIGCSE '14)*, Atlanta, GA, Mar. 2014.
8. B. Manaris, D. Johnson, and Y. Vassilandonakis, "Harmonic Navigator: A Gesture-Driven, Corpus-Based Approach to Music Analysis, Composition, and Performance", 2nd International Workshop on Musical Metacreation (MUME 2013), *Proceedings of AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE'13)*, Boston, MA, Oct. 2013.
9. D. Hughes, B. Manaris, "Fractal Dimensions of Music and Automatic Playlist Generation - Similarity Search via MP3 Song Uploads", *Proceedings of 8th IEEE International Conference on*

Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP 2012), Piraeus-Athens, Greece, Jul. 2012.

10. B. Manaris, D. Hughes, and Y. Vassilandonakis, "Monterey Mirror: Combining Markov Models, Genetic Algorithms, and Power Laws", *Proceedings of 1st Workshop in Evolutionary Music, 2011 IEEE Congress on Evolutionary Computation (CEC 2011)*, New Orleans, LA, USA, pp. 33-40, Jun. 2011.
11. B. Manaris, D. Krehbiel, P. Roos, T. Zalonis, "Armonique: Experiments in Content-Based Similarity Retrieval Using Power-Law Melodic and Timbre Metrics", *Proceedings of the 9th International Conference on Music Information Retrieval (ISMIR 2008)*, Philadelphia, PA, Sep. 2008.
12. C.W. Starr, B. Manaris, and R. H. Stalvey, "Bloom's Taxonomy Revisited: Specifying Assessable Learning Objectives in Computer Science", *Proceedings of the 39th ACM Technical Symposium on Computer Science Education (SIGCSE'08)*, Portland, OR, Feb. 2008.
13. P. Roos and B. Manaris, "A Music Information Retrieval Approach Based on Power Laws", *Proceedings of 19th IEEE International Conference on Tools with Artificial Intelligence (ICTAI-07)*, Patras, Greece, vol. 2, pp. 27-31, Oct. 2007.
14. B. Manaris, R. Roos, P. Machado, D. Krehbiel, L. Pellicoro, and J. Romero, "A Corpus-Based Hybrid Approach to Music Analysis and Composition", *Proceedings of 22nd Conference on Artificial Intelligence (AAAI-07)*, Vancouver, BC, pp. 839-845, Jul. 2007.
15. B. Manaris, L. Pellicoro, G. Pothering, and H. Hodges, "Investigating Esperanto's Statistical Proportions Relative to Other Languages Using Neural Networks and Zipf's Law", *Proceedings of the 2006 IASTED International Conference on Artificial Intelligence and Applications* (AIA 2006), Innsbruck, Austria, Feb. 2006.
16. D. Lyle and B. Manaris, "SUITEDasher – A Multilingual Keyboard and Mouse Interface for Motor-Impaired Users", *Proceedings of 11th International Conference on Human-Computer Interaction* (HCI 2005), Las Vegas, NV, CD-ROM, pp. 1-10, Jul. 2005.
17. B. Manaris, P. Machado, C. McCauley, J. Romero, and D. Krehbiel, "Developing Fitness Functions for Pleasant Music: Zipf's Law and Interactive Evolution Systems", *Proceedings of 3rd European Workshop on Evolutionary Music and Art (EvoMusart 2005)*, Lausanne, Switzerland, *Lecture Notes in Computer Science*, Applications of Evolutionary Computing, LNCS 3449, Springer-Verlag, pp. 498-507, Mar. 2005.
18. B. Manaris and R. McCauley, "Incorporating HCI into the Undergraduate Curriculum: Bloom's Taxonomy Meets the CC'01 Curricular Guidelines", *Proceedings of 34th ASEE/IEEE Frontiers in Education Conference*, Savannah, GA, pp. T2H10 - T2H15, Oct. 2004.
19. P. Machado, J. Romero, M.L. Santos, A, Cardoso, and B Manaris, "Adaptive Critics for Evolutionary Artists", *Proceedings of 2nd European Workshop on Evolutionary Music and Art (EvoMusart 2005)*, Coimbra, Portugal, *Lecture Notes in Computer Science*, Applications of Evolutionary Computing, LNCS 3005, Springer-Verlag, pp. 437-446, Apr. 2004.
20. P. Machado, J. Romero, B. Manaris, A. Santos, and A. Cardoso, "Power to the Critics - A Framework for the Development of Artificial Critics", *Proceedings of 3rd Workshop on Creative Systems, 18th International Joint Conference on Artificial Intelligence* (IJCAI 2003), Acapulco, Mexico, pp. 55-64, Aug. 2003.
21. B. Manaris, D. Vaughan, C. Wagner, J. Romero, and R.B. Davis, "Evolutionary Music and the Zipf–Mandelbrot Law: Progress towards Developing Fitness Functions for Pleasant Music", *Proceedings of 1st European Workshop on Evolutionary Music and Art (EvoMusart 2003)*,

Essex, UK, *Lecture Notes in Computer Science*, Applications of Evolutionary Computing, LNCS 2611, Springer-Verlag, pp. 522-534, Apr. 2003.

22. B. Manaris, T. Purewal, and C. McCormick, "Progress Towards Recognizing and Classifying Beautiful Music with Computers – x MIDI-Encoded Music and the Zipf-Mandelbrot Law", *Proceedings of the IEEE SoutheastCon 2002*, Columbia, SC, pp. 52-57, Apr. 2002.
23. R. McCauley and B. Manaris, "Computer Science Education at the Start of the 21st Century - A Survey of Accredited Programs", *Proceedings of 2002 Frontiers in Education Conference*, Boston, MA, Nov. 2002.

Seminars (selected, last two years)

1. B. Manaris, "Making Music With Computers: Creative Programming in Python", University of Nebraska–Lincoln, Consortium for Computing Sciences in Colleges Workshop, Mar. 2017.
2. B. Manaris, "Computing in the Arts: Computer Music and Interaction", University of North Carolina-Asheville, NSF-funded Faculty Workshop, May 2016.
3. B. Manaris, "Computing in the Arts: Exploring Music, Technology and Innovation", American College of Greece, Arts Festival Invited Lecture, Mar. 2016.
4. B. Manaris, "Computing in the Arts (CITA) – A New Major for Creative People", Clemson University, Invited School of Computing Seminar, Nov. 2015.
5. B. Manaris, "Computing in the Arts (CITA) – A New Major for Creative People", The University of Utah, Invited Arts & Technology Lecture, Apr. 2015.
6. B. Manaris and T. Kohn, "Making Music With Computers: Creative Programming in Python", *47th ACM Technical Symposium on Computer Science Education (SIGCSE '16)*, Memphis, TN, Mar. 2016.
7. B. Manaris, A.R. Brown, and T. Kohn, "Making Music With Computers: Creative Programming in Python", *46th ACM Technical Symposium on Computer Science Education (SIGCSE '15)*, Kansas City, MO, Mar. 2015.

Teaching

Since 1988, have taught various Computer Science courses including Computer Music and Art: Creating Programming (undergraduate, 2008 – 2017), Human-Computer Interaction (graduate, 1996 – 2016), Artificial Intelligence (undergraduate, 1994 – 2012), Computer Music on a Laptop: Composing, Performing, Interacting (undergraduate, 2013 – 2014), Game Programming (undergraduate, 2008 – 2010), and various other courses (undergraduate, sporadic) including Data Structures and Software Design, Introduction to Computer Science, Business Data Processing, and programming in C, C++, Java, LISP, Ada, BASIC, Tcl/Tk, Lex, YACC, Pascal, Processing, Prolog, and Python. Statement of Teaching Philosophy is available at http://www.cs.cofc.edu/~manaris .

Curriculum Development

1. **Computing in the Arts B.A. Degree (CITA).** A 55-hour model curriculum synthesizing computing, music, art, and theatre. It incudes four synthesis courses, one per academic year. Supported by the National Science Foundation and Google. See http://cita.cofc.edu .
2. **Honors Course (HONS 318) - Computer Music on a Laptop: Composing, Performing, Interacting.** A three-hour course for junior and senior honors students, co-taught by a Music and a Computer Science professor. It provides an in-depth introduction of principles of music composition and computer programming for developing interactive computer music environments.

Team-based, project-driven exploration of Python programming, time-based structures, algorithmic processes, soundscapes, graphical user interfaces, musical language and style.

3. **Computers, Music and Art (CSCI 180).** A three-credit course for undergraduate students. A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Students are exposed to media modeling and computational thinking in the liberal arts and sciences. Students develop several digital artifacts. Course notes turned into textbook co-authored with Australian colleague, Andrew R. Brown. See http://jythonmusic.org .
4. **Human-Computer Interaction (CSIS 672).** A three-credit course for graduate students. It provides an in-depth introduction to human-computer interaction, user interface design and implementation. Topics include psychological foundations, user-interface design examples, interaction models and dialog types for interfaces, user interface life-cycle, user-centered design and task-analysis, prototyping and the iterative design cycle, prototyping tools and environments, user interface implementation, and interface quality and methods of evaluation.
5. **Game Programming (CSCI 280).** A three-credit course for undergraduate students. A course introducing principles of game programming, including computer modeling, data visualization and animations, media transformations, and video game ethics. Students will be exposed to several game engines, a scripting language, and develop at least one game.

Service (selected)

Program Director, Computing in the Arts (CITA), College of Charleston (Aug. 2012 – present).

Associate Editor, *International Journal on Artificial Intelligence Tools* (Jan. 1995 – present).

External Ph.D. Committee Examiner, Tobias Kohn, Department of Computer Science, ETH Zürich, Zürich, Switzerland (Jun. 2016 – Dec. 2016).

Bill Manaris and Penousal Machado, Guest Editors, special issue on "Artificial Intelligence in Music and Art", *International Journal on Artificial Intelligence Tools* 15(4), Aug. 2006.

Bill Manaris, Guest Editor, special issue on "Human-Computer Interaction", *Computer Science Education Journal* 13(3), Sep. 2003.

Bill Manaris and Jim Etheredge, Program Chairs, 13th International FLAIRS Conference (FLAIRS-2000), Orlando, FL, May 22-24, 2000.

Bill Manaris and Pierre Marquis, Program Chairs, 8th IEEE International Conference on Tools with Artificial Intelligence (ICTAI-96), Toulouse, France, Nov. 1996.

Bill Manaris, Jesse Heines and Douglas Turnbull, Special Session Organizers, "Connecting Computer Science Education and Music Making", 41st ACM Technical Symposium on Computer Science Education (SIGCSE 2010), Milwaukee, WI, Mar. 2010.

Coordinator, College of Charleston Teacher-Scholar Initiative (Aug. 2002 – Jul. 2003).

Faculty Senator, College of Charleston, 2006, 2008 - 2012, 2016 - present (three terms).

Academic Mentor, 20 graduate students, 52 undergraduate students (1993 – present).

Reviewer, NSF (7 panels), 12 journals, 30 conferences.

Awards and Honors

Grants (selected)

Bill Manaris and Renée McCauley (College of Charleston); Jennifer Burg (Wake Forest University); Susan Reiser and Rebecca Bruce (University of North Carolina at Asheville), "Collaborative Research: Computing in the Arts - A Community-Building Initiative", NSF DUE-1323605, amount $532,959, Sep. 2013 – Aug. 2017.

Bill Manaris, "JythonMusic in Bluemix: Creative Programming for the Masses", IBM Faculty Award, amount $10,000, Oct. 2015.

Bill Manaris and Renée McCauley, "Computing in the Arts (CITA): A Model Curriculum", NSF DUE-1044861, amount $124,999, Feb. 2011 – Jan. 2014.

Bill Manaris, "EAGER: an Efficient Algorithm for Automated Transcription of Music, Vocalizations, and Arbitrary Sound Recordings", NSF IIS-1049554, amount $37,016, Sep. 2010 – Aug. 2012.

Bill Manaris and Renée McCauley, "Computing in the Arts (CITA) Equipment Grant", Google Inc., amount $20,000, Jun. 2011 – May 2012.

Bill Manaris and Dwight Krehbiel, "Music Similarity Retrieval Using Power-Law Metrics", NSF IIS-0849499, amount $90,866, Sep. 2008 – Feb. 2010.

Bill Manaris and Dwight Krehbiel, "A Music Search Engine Based on Aesthetic Similarity", NSF IIS-0736480, amount $99,564, Aug. 2007 – Jan. 2010.

Bill Manaris and Renée McCauley, "Incorporating HCI into the Undergraduate Curriculum: A Community Building Initiative", NSF DUE-0226080, amount $66,725, Sep. 2002 – Aug. 2006.

Christopher Starr, Bill Manaris, Deanna Caveny, Dinesh Sarvate, Renée McCauley, "Workforce Scholarship Project in Computer Science and Mathematics", NSF DUE-0123032, amount $400,000, Sep. 2001 – Aug. 2005.

Bill Manaris, "Searching for Beauty in Music – Applications of Zipf's Law in MIDI-Encoded Music", College of Charleston Research grant, amount $2,500, Aug. 2001 – Dec. 2001.

Renée McCauley and Bill Manaris, "An Information Resource for Curriculum Development and Program Enhancement in Computer Science", NSF DUE-9752482, amount $108,205, Jun. 1998 – May 2001.

Other (selected)

IBM Faculty Award, in recognition of achievement for the development of Jython Music (http://jythonmusic.org) and "its importance to the industry", Oct. 2015.

Innovative Teaching and Learning in the Liberal Arts and Sciences (ILAS), College of Charleston, May 2013.

Global Scholar, Global Scholars Initiative, College of Charleston (Aug. 2009 – present).

One of Most-Helpful Faculty, Office for the Academic Experience, College of Charleston, May 2012.

Front-Page Article, "Real, artificial brains make magical music", *The Post and Courier*, Nov. 2011.

Newspaper Article, "Bringing students back to the future", *The Post and Courier*, Sep. 2007.

Nominated for Distinguished Teacher-Scholar Award, College of Charleston, Mar. 2007.

Distinguished Alumni Award, Computer Science Department, University of New Orleans, Nov. 2002.

In-Praise-of-Teaching Award, College of Charleston, Jan. 2002. In recognition of excellence in helping undergraduates with research.