VITA

JOSEPH P. HOFFBECK

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EDUCATION

Ph.D., School of Electrical Engineering, May 1995
Purdue University, West Lafayette, IN
Thesis: Classification of High Dimensional Multispectral Image Data

MSEE, Emphasis in Communications and Signal Processing, December 1990
Purdue University, West Lafayette, IN

BSEE, May 1989, Purdue University, West Lafayette, IN

PUBLICATIONS - PEER-REVIEWED CONFERENCE PAPERS

Hoffbeck, Joseph P., "A Laboratory Method for Teaching Analog-to-Digital and Digital-to-Analog Conversion," American Society for Engineering Education Annual Conference and Exposition (ASEE 2010), Louisville, Kentucky, June 20 – 23, 2010.

Hoffbeck, Joseph P., "Teaching Communication Systems using the Universal Software Radio Peripheral (USRP) and GNU Radio," American Society for Engineering Education Annual Conference and Exposition (ASEE 2009), Austin, Texas, June 14 – 17, 2009.

Hoffbeck, Joseph P., "Using Real RF Signals Such as FM Radio to Teach Concepts in Communication Systems," American Society for Engineering Education Annual Conference and Exposition (ASEE 2008), Pittsburg, Pennsylvania, June 22 - 25, 2008.

Hoffbeck, Joseph P., "RF Signal Database for a Communication Systems Course," American Society for Engineering Education Annual Conference and Exposition (ASEE 2006), Chicago, Illinois, June 18-21, 2006.

Turner, John, and Hoffbeck, Joseph P., "Putting Theory into Practice with Simulink," American Society for Engineering Education Annual Conference and Exposition (ASEE 2005), Portland, Oregon, June 12-15, 2005.

Hoffbeck, Joseph P., "Using Real Signals with Simulated Systems," American Society for Engineering Education Annual Conference and Exposition (ASEE 2002), Montréal, Quebec, Canada, June 16-19, 2002.

Vondrachek, Christopher J., and Hoffbeck, Joseph P., "A Speech and Music Detector Project for a DSP Class," American Society for Engineering Education Annual Conference and Exposition (ASEE 2001), Albuquerque, NM, June 24-27, 2001.

Hoffbeck, J. P., and Landgrebe, D. A., "A Method for Estimating the Number of Components in a Normal Mixture Density Function," The 2000 International Geoscience and Remote Sensing Symposium (IGARSS'00), July 24 - 28, 2000, pp. 1675-1677.

Hoffbeck, J. P., and Landgrebe, D. A., "Covariance Estimation for Classifying High Dimensional Data," Proceedings of the 1995 International Geoscience and Remote Sensing Symposium (IGARSS'95), 1995, pp. 1023-1025.

Hoffbeck, J. P., and Landgrebe, D. A., "Effect of Radiance-to-Reflectance Transformation and Atmosphere Removal on Maximum Likelihood Classification Accuracy of High-Dimensional Remote Sensing Data," Proceedings of the 1994 International Geoscience and Remote Sensing Symposium (IGARSS'94), August 1994, pp. 2538-2540.

Hoffbeck, J. P., and Landgrebe, D. A., "Classification of High Dimensional Multispectral Image Data," Summaries of the Fourth Annual JPL Airborne Geoscience Workshop, JPL Publication 93-26, Vol. 1, October 1993, pp. 93-96.

PUBLICATIONS - PEER-REVIEWED JOURNAL PAPERS

Hoffbeck, Joseph P., "Using Real Signals with Simulated Systems," Computers in Education Journal, Vol. XIII, No. 1, January - March 2003, pp. 31-38.

Albright, Robert J.; and Hoffbeck, Joseph P., "Discovering the Effects of Feedback on Control Systems: Informative and Interesting Numerical Exercises", IEEE Transactions on Education, Vol. 44, No. 2, May 2001, pp. 104-108.

Hoffbeck, Joseph P., "A Method for Hiding Useful Information in Digital Audio Signals," Computers in Education Journal, Vol. XI, No. 1, January - March, 2001, pp. 7-11.

Hoffbeck, Joseph P., Sarwar, Mansoor; and Rix, Eric J., "Interfacing MATLAB with a Parallel Virtual Processor for Matrix Algorithms", The Journal of Systems and Software, vol. 56, 2001, pp. 77-80.

Hoffbeck, J. P., "Tools for Teaching and Learning Digital Logic Design," Computers in Education Journal, Vol. IX, No. 2, April-June 1999, pp. 24-26.

Hoffbeck, J. P., and Landgrebe, D. A., "Covariance Matrix Estimation and Classification with Limited Training Data," IEEE Transactions on Pattern Analysis and Machine Intelligence., Vol. 18, No. 7, July 1996, pp. 763-767.

Hoffbeck, J. P., and Landgrebe, D. A., "Classification of Remote Sensing Images having High Spectral Resolution," Remote Sensing of the Environment, Vol. 57, No. 3, September 1996, pp. 119-126.

AWARDS

Sabbatical, University of Portland, Spring 2007
Arthur Butine Faculty Development Award for "Acquisition of Communication Signals", 2005
American Society for Engineering Education Pacific Northwest Section Teaching Award, 2004
University of Portland Outstanding Teaching Award, 2003
Arthur Butine Faculty Funded Research Grant from University of Portland for "Method for Hiding Data in Audio Signals", 1999
Club Advisor of the Year, 1999-2000 awarded by ASUP

PATENTS

Hoffbeck, Joseph P.; Meyers, Martin; Premji, Al-Nasir; Tarraf, Ahmed A.; Tracy, Kevin, “Method and apparatus for improving the quality of speech signals transmitted over wireless communication facilities”, US Patent Number 6445686, September 3, 2002.

EXPERIENCE

Associate Professor (with Tenure), School of Engineering, University of Portland, August 2003 – Present

Assistant Professor (Tenure Track), School of Engineering, University of Portland, August 1997 – July 2003

Courses Taught:
EE111 Introduction to Multimedia Processing
EE214 Material Science for Electrical Engineers
EE231 Logic Design
EE261 Electrical Circuits
EE271 Electrical Circuits Laboratory
EE353 Electrical Instrumentation
EE362 Signals and Systems
EE375 Instrumentation Laboratory
EE403/503 Communication Systems
EE462/562 Digital Signal Processing

EE470 Senior Laboratory
EE471 Specialized Senior Laboratory
EE490A Data Hiding Methods for Audio Signals (Directed Study)
EE490B Applied Digital Signal Processing (Directed Study)
EE490D Bluetooth Communication (Directed Study)
EE590B Digital Communication Systems and WiMax (Directed Study)
EE590C Advanced Communication Systems (Directed Study)
EGR110 Introduction to Engineering
EGR360 Analysis of Engineering Data
FE Review Course on Communications and Signal Processing
FE Review Course on Instrumentation and Measurement

Consultant, Tonkon Torp LLP, 2006
Consultant, Omega Micro Technologies, Inc., (Formerly Omega Wireless Solutions), 2004
Consultant, Stauf Enterprises, Inc., 2001 - 2003

Member of the Technical Staff, Lucent Technologies (Formerly AT&T Bell Laboratories)
August 1995 - July 1997
Development Support and Voice Quality Testing for CDMA and TDMA Cellular and PCS Telephone Systems, Specializing in Voice Compression and Echo Cancellation

Research Assistant, Purdue University, West Lafayette, Indiana
January 1993 - December 1993, June 1994 - May 1995

Teaching Assistant, Purdue University, West Lafayette, Indiana
August 1988 - December 1992, January 1994 - May 1994

Summer Intern, Magnavox Electronic Systems Company, Fort Wayne, Indiana
June 1989 - August 1989

Co-op Student, Magnavox Electronic Systems Company, Fort Wayne, Indiana,
May 1985 - May 1988 (Five Co-op Sessions)

PROFESSIONAL DEVELOPMENT

Attended Oregon IEEE COMSOC Meeting - Cognitive Networks/Dynamic Spectrum Access in Wireless Networks, November 4, 2010
Attended a two-day Cognitive Radio Workshop at Intel, November 6 - 7, 2008
Attended Wireless PAN Technology and IEEE 802.15.4/Zigbee Workshop, November 18, 2005
Attended a talk on the P6 microprocessor architecture by Bob Colwell, April 21, 2005.
Attended a half-day workshop on active-learning techniques by Dr. Richard Felder. April 24, 2004.
Attended a one-day Digital Image Security and Watermarking workshop, August 8, 2002.
Attended a 1-day seminar "IEEE 802.11 Wireless LAN Technology" on wireless networking technology for computers, April 25, 2002.

Attended a 1-day seminar "Introduction to BluetoothTM Technology" on emerging wireless technology, April 27, 2001
Attended a 1-day "HP Back to Basics" workshop on RF measurement techniques, May 20, 1999.

Attended the 1-week teaching workshop "Preparing Engineering Faculty of the Future" at Carnegie Mellon University, sponsored by the NSF, July 19-24, 1998.
Completed Teaching Methods in Engineering (3 Credit Hours), 1995.
Completed College Teaching Workshop (1 Credit Hour), 1994.

COMMITTEES

Dean Search Committee, 2010 - 2011
Teaching and Scholarship Committee (TAS), 2008 - 2011
On-line Course Evaluation Task Force, 2008 – 2011
School of Engineering Recruitment/Retention Committee, 2009 – 2010
School of Engineering Space Utilization Committee, 2007 - 2008
Institutional Research Board (IRB), 2005 – 2008
Student Faculty Court, 2005 – 2006
Honors Program Review Committee, 2003 - 2005
Engineering Computer Committee, 1998 – 1999 and 2001 – 2002
Chair Engineering Computer Committee, 1999 - 2001
Faculty Committee on Assessment, 1999 - 2001
Dean Evaluation Committee 1999 - 2000
Library and Information Services Self-Study Sub-Committee, 1999 - 2000
Traffic Court, 1998 - 2000
Engineering Probability and Statistics Committee 1998 - 1999

SERVICE/ACTIVITIES

Acting chair of Electrical Engineering and Computer Science Department, Spring 2008
SWE Faculty Advisor, 2007 - Present
IEEE Student Branch Counselor, 1999-2006
Reflection Leader for Building Community: Serving to Learn, 2005 - 2010
Member of Institute of Electrical and Electronics Engineers (IEEE)
Member of American Society for Engineering Education (ASEE)
Reviewed Papers for the following publications:

- IEEE Transactions on Image Processing
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- Computers and Geosciences
- The Journal of Systems and Software
- IEEE Spectrum
- American Society for Engineering Education Annual Conference and Exposition
- Reviewed two chapters of a book for McGraw-Hill
- Reviewed a book proposal for John Wiley and Sons.

Co-Advisor for Robot Team that attended the Robot Competition at Cal Poly on 4/20/02
Volunteer for MESA Day, University of Portland, May 22, 2004

Judge for student projects for ITT's Tech Fest, May 18, 1999
Volunteer at Jacob Wismer Elementary School