

<b>Contact information</b>	Department of Electrical Engineering and Computer Science Milwaukee School of Engineering 1025 N Broadway L-339 Milwaukee WI 53202-3109	durant@msoe.edu http://www.edurant.com/ 414-277-7439 (O)
<b>Education</b>	<b>1/2002 <i>PhD / Electrical Engineering</i></b> <b>12/1999 <i>MSE / Electrical Engineering</i></b> University of Michigan, Ann Arbor, MI Dissertation: <i>Hearing Aid Fitting with Genetic Algorithms</i> Advisor: Gregory H. Wakefield, PhD Major / Minor: Signal Processing / Communications <b>5/1998 <i>BS / Computer Engineering, with High Honors</i></b> <b><i>BS / Electrical Engineering, with High Honors</i></b> Milwaukee School of Engineering Minor: Management Systems	
<b>Employment</b>	<b>9/2006–present <i>Program Director, Computer Engineering</i></b> Milwaukee School of Engineering Develop and maintain industrial contacts, work with faculty to enhance the curriculum with emphasis on technical currency and innovation, champion extracurricular innovations to improve the student experience, administer program policies related to student advancement, transfer credit, etc., and report on and promote ongoing assessment activities <b>3/2002–present <i>Associate Professor</i></b> Milwaukee School of Engineering (Promoted from Assistant Professor 7/2008) Teach primarily in the Computer Engineering (CE) program. Meet with advisees quarterly to discuss academic and professional plans. Develop and execute various academic outreach programs for high school students <b>5/2003–present <i>DSP Research Engineer, Hearing Aids (every summer)</i></b> Starkey Laboratories, Inc., Berkeley, CA and Eden Prairie, MN <ul style="list-style-type: none"><li>• Developed and optimized beamforming algorithms to reject many types of unwanted noise while robustly focusing on the person in front of the listener</li><li>• Developed robust perceptual rank inferencing methods with minimal task load</li><li>• Designed and implemented experiments and experiment software infrastructure for genetic-algorithm-based parametric fitting of hearing aids</li><li>• Key technologies used include Pocket PC (C++/MFC and C#/.NET 2.0 Compact Framework) for Axent II and Destiny product lines and MATLAB</li></ul> <b>3/1999–1/2002 <i>Graduate Student Research Assistant</i></b> University of Michigan, Department of Electrical Engineering and Computer Science Performed genetic algorithm and perceptual tuning research <b>8/2000–1/2002 <i>Advanced Research Team Member</i></b> Starkey Laboratories, Inc., Eden Prairie, MN Researched genetic algorithm based hearing aid fitting algorithm in conjunction with dissertation research, developed experimental fitting system in MATLAB, C, and Motorola 56k assembly <b>6/2000–7/2000 <i>Technical Consultant</i></b> Adapted Wave Technologies, Ann Arbor, MI Implemented fast block transform algorithms in C, multi-platform profiling and testing <b>6/1996–9/1998 <i>Central Research Team Member</i></b> Johnson Controls, Inc., Glendale, WI Researched and developed smart building technologies. Responsibilities included: interfacing emulation software to DAQ/RIO, evaluating and interfacing softPLCs, presentations to management, ActiveX integration, TCP-level service programming, Web development including project tracking, GIS, and database integration <b>9/1996–7/1998 <i>Webmaster</i></b> Milwaukee School of Engineering Researched user needs, trained and supported developers, wrote site automation software in C and Perl, integrated new and legacy database systems	

<b>Professional societies</b>	IEEE Senior Member (Institute of Electrical and Electronics Engineers, S'93, M'02, SM'06) ASEE Member (American Society for Engineering Education, M'02)
<b>Teaching experience</b>	<p><b>Courses taught at Milwaukee School of Engineering</b></p> <p>SE-1010: Software Development I (F'07, F'08), SE-1020: Software Development II (W'08-09), GE-110: Introduction to Engineering Concepts (F'03), CS-182: Computer Programming (S'02, W'02-03, S'03), CS-183: Software Design (Su'02), CE-1900: Digital Logic I: Combinational Systems (W'06-07, 2xW'07-08, 2xW'08-09), CE-1910: Digital Logic II: Sequential Systems (S'08, S'09), CS-280: Embedded Systems Software (S'02, S'03, S'04, S'05, S'06), CS-285: Data Structures (W'02-03), CE-2930: Introduction to Computer Architecture (S'09), CS-321: Computer Graphics (F'02, F'03, F'04), SE-380: Software Architecture (F'02), SE-3821: Software Requirements and Specification (W'03-04, F'04, F'05), CS-384: Design of Operating Systems (W'04-05, W'05-06), EE-393: VLSI Lab (S'07), CS/SE-40x: Senior Design Project (W'03-04 through S'07), CS-421: Advanced Computer Graphics (W'02-03, W'03-04, W'04-05), CS-489: Software Engineering Design (F'07, F'08), SE-4920: Computer Security (S'06, S'07, S'08), CS/SE-499: Independent Study (S'05, W'05-06, S'06)</p> <p><b>Master's Projects chaired at Milwaukee School of Engineering</b></p> <p>Emily Blakemore, "Audio Signal Compression Enhancements" (W'04-05 through S'05)</p>
<b>Honors and awards</b>	Electrical Engineering and Computer Science Department Fellowship (University of Michigan, 1998–2002) Motorola Foundation fellowship (1999–2000) Alumni Association Student Achievement Award (Milwaukee School of Engineering, 1998) Newport Corporation Award of Excellence (for outstanding optics project, 1998) Fred F. Look Outstanding Student Award (Milwaukee School of Engineering, 1997)
<b>Patents</b>	Eric A. Durant, "Robust rank estimation from paired comparisons," filing in preparation by Starkey counsel as of May, 2009. Eric A. Durant, "Hearing aids and methods and apparatus for audio fitting thereof," pending, filed January, 2002, last office action June, 2006.
<b>Invited presentations</b>	Henry Welch, Deepti Suri, and Eric Durant, "Using Targeted Assessments to Satisfy Achievement of Program Outcomes," <i>Best Assessment Processes (BAP) IX</i> , April, 2007, Terre Haute, IN. Eric A. Durant, Gregory H. Wakefield, Dianne J. VanTasell, and Martin E. Rickert, "Hearing Aid Fitting with a Genetic Algorithm," <i>International Hearing Aid Research Conference (IHCON)</i> , August, 2002, Lake Tahoe, CA.
<b>Invited papers</b>	Henry Welch, Deepti Suri, and Eric Durant, "Rubrics for Assessing Oral Communication in the Capstone Design Experience: Development, Application, Analysis and Refinement," <i>International Journal of Engineering Education (IJEE)</i> , 2008 (accepted 8/2007 and pending publication).
<b>Refereed papers</b>	Eric A. Durant, "Combining Requirements and Interdisciplinary Work," <i>Proceedings of the 2006 ASEE Annual Conference</i> , CD-ROM, Chicago, IL, June, 2006. Eric A. Durant, Gregory H. Wakefield, Dianne J. VanTasell, and Martin E. Rickert, "Efficient Perceptual Tuning of Hearing Aids with Genetic Algorithms," <i>IEEE Transactions on Speech and Audio Processing</i> , vol. 12, no. 2, March, 2004. Eric A. Durant and Gregory H. Wakefield, "Efficient model fitting using a genetic algorithm: Pole-zero approximations of HRTFs," <i>IEEE Transactions on Speech and Audio Processing</i> , vol. 10, no. 1, January, 2002.
<b>Other papers</b>	Russell Meier, Steven L. Barnicki, William Barnekow, and Eric Durant, "Work in Progress - Year 2 Results from A Balanced, Freshman-first Computer Engineering Curriculum," <i>Proceedings of the 38th Annual Frontiers in Education Conference</i> , October, 2008. Henry L. Welch, Deepti Suri, and Eric Durant, "Rubrics for Assessing the Capstone Design Experience: Development, Application, Analysis and Refinement," <i>Best Assessment Processes (BAP) VIII</i> , Session 59, Terre Haute, IN, February, 2006. Deepti Suri and Eric Durant, "Teaching Requirements through Interdisciplinary Projects," <i>Proceedings of the 2004 ASEE North Midwest Regional Conference</i> , October, 2004.
<b>Professional activities</b>	Program Committee Member for IEEE WASPAA (Workshop on the Applications of Signal Processing to Audio and Acoustics) (2003)
<b>Professional activities – reviewer</b>	IEEE Transactions on Audio, Speech, and Language Processing (TASL) (2007) ASEE Annual Conference Papers, Software Engineering Constituent Committee (SwECC) (2005, 2006) IEEE Transactions on Image Processing (2005–2006) IEEE Transactions on Signal Processing (2005) All chapters of "Interactive Computer Graphics: A Top-Down Approach Using OpenGL™" 4ed (2004) IEEE Signal Processing Letters (2003)

<b>Professional activities – participant<sup>1</sup></b>	<ul style="list-style-type: none"> <li>KEEN (Kern Entrepreneurship Education Network) Milwaukee Conference (2008)</li> <li>KEEN Chicago Workshop (2007)</li> <li>KEEN Glendale, AZ Meeting (Thunderbird School of Global Management) (2007)</li> <li>Electrical and Computer Engineering Department Heads Association (ECEDHA) Annual Meeting (2007)</li> <li>ABET Evaluator Training (BMES, Chicago, 2006)</li> <li>Information Security and Advanced Information Security SEI week-long courses (2005)</li> <li>ASEE ExcEEEd Effective Teaching Workshop (Santa Clara University, 2004)</li> <li>On-line Faculty Development Course (University of Wisconsin, 2003)</li> <li>ASEE North Midwest Section Conference (University of Wisconsin, 2003)</li> </ul>
<b>Company visits</b>	<ul style="list-style-type: none"> <li>NVIDIA, Santa Clara, CA (planned 7/2009)</li> <li>FedEx SmartPost, New Berlin, WI (4/2007, 7/2008)</li> <li>Rockwell Collins, Cedar Rapids, IA (alumni association event and CE IAC member visit) (8/2007)</li> <li>Stark Investments, Milwaukee, WI (7/2007)</li> <li>Direct Supply, Milwaukee, WI (3/2007)</li> </ul>
<b>Other extramural activities</b>	<ul style="list-style-type: none"> <li>Science Fair Judge, University School of Milwaukee (2/2008, 2/2009)</li> <li>Judge for Johnson Controls high school robotics class capstone competition (8/2007, 8/2008)</li> <li>Volunteer for MSOE's Jazz in the Park activities through the East Town Association (2x2002, 2003, 2007)</li> </ul>
<b>University activities (MSOE)</b>	<ul style="list-style-type: none"> <li>Benefits Committee Chair (2003–present): led successful effort to increase 403(b) matching rate</li> <li>Mentor Program (2003–present)</li> <li>Alumni Board Faculty Representative (2003–present)</li> <li>Web Advisory Team Member (2007–present)</li> <li>Wrote numerous student letters of recommendation (2003–present)</li> <li>Unofficial Photographer at dozens of campus athletics and theater events annually, several published photos (2003–present)</li> <li>Commencement (S'03, S'04, S'05, S'06, F'06, W'06–07, S'07, F'07, S'08, F'08, W'08–09, S'09)</li> <li>Representative at Alumni Association Reception for graduates (S'04, S'05, F'05 [gave speech], W'05–06, S'06, F'06, W'06–07, S'07, F'07, W'07–08, S'08, F'08, W'08'09, S'09)</li> <li>Faculty Senate (6/2004–5/2006, 9/2008–5/2009), Secretary (9/2005–5/2006, 9/2008–5/2009)</li> <li>Selection Committee, Daniel Sahs and Tom Davis student awards (2005, 2006, 2007, 2008, 2009)</li> <li>Nominator (successful) of student for Daniel Sahs Award for Service (4/2009)</li> <li>Member, Fall In-Service Committee (4/2009)</li> <li>Volunteer, Midnight Breakfast (2/2003–2/2009, all 13 quarters offered)</li> <li>Judge, MLK Art Contest (1/2009)</li> <li>Interviewer, President's Scholarship (2003, 2004, 2005, 2006, 2007, 2008, 2009); CE reception (2008)</li> <li>Judge, Regional Science Bowl (2003, 2004, 2005, 2006, 2007, 2008, 2009)</li> <li>Quiz Bowl Faculty Team (2003, 2004, 3/2005, 12/2005, 2006, 2007, 2008)</li> <li>Coordinator, Op Computer Programming Competition for high school students (2002, 2003, 2004, 2005, 2008)</li> <li>In-Service Presenter, "20 Great Reads" (8/2008)</li> <li>In-Service Presenter, "Senior Design" (8/2007)</li> <li>Coordinated IEEE Publications Services visit (IEEE Expert Now) for faculty (5/2007)</li> <li>Master of Ceremonies, Faculty and Staff Recognition Dinner (4/2007)</li> <li>Volunteer, Op Computer Programming Competition for high school students (2006, 2007)</li> <li>In-Service Presenter, "Developmental Advising" (8/2006)</li> <li>Advisor, <i>Ingenium</i> student newspaper (2002–2006)</li> <li>Volunteer, Campus Visit Day Luncheons (2003–2006, four times)</li> <li>Nominator (successful) of student for Outstanding Mentor Award (4/2004)</li> <li>Selection Committee, R. Pieper Endowed Chair for Servant-Leadership (2004)</li> <li>CSI (College Student Inventory) advisor training and advising (2004)</li> <li>Events Subcommittee, Centennial Celebration Committee (2002)</li> </ul>
<b>Department activities (MSOE EECS)</b>	<ul style="list-style-type: none"> <li>Initiated and executed ongoing series of CE student social and networking events (4/2007, 12/2007, 9/2008, 3/2009, 9/2009 [planned])</li> <li>Coordinate CE and SE senior design (5/2004–5/2007)</li> <li>Advise students in the SE and CE majors (2002–present)</li> <li>Represented department at most open houses (2002–present)</li> <li>Coordinated CE and SE senior class picture gift (2004, 2005, 2006, 2007, 2008, 2009)</li> <li>Taught two- or three-day sequence in CE Focus summer program for high school students (2004–2008)</li> <li>Major updater of software tools used by students in embedded systems courses (2002–2006)</li> <li>Organized and presented SDL SQL Training Session (2003)</li> </ul>
<b>Research interests</b>	<ul style="list-style-type: none"> <li>Signal processing, with emphasis on image coding, perceptual tuning, fast algorithms, hearing, and audio</li> </ul>

<sup>1</sup> All conferences where a paper was given (listed above) were attended. These and conferences where invited presentations were given, also listed above, do not appear in this section.