

DIANE HU

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OBJECTIVE

My research interests lie at the intersection of machine learning and audio/speech processing. I am committed to exploring auditory object recognition techniques with the aim of building elegant and cutting-edge systems that will benefit various communities of people.

EDUCATION

University of California, San Diego, La Jolla, CA 2006–Present
Ph.D. Student in Computer Science, 3.6/4.0 Advisor: Lawrence Saul

University of Washington, Seattle, WA 2002 – 2006
B.S. in Computer Science, Minor in Music, 3.8/4.0, Cum Laude Advisor: Linda Shapiro

RESEARCH AND INDUSTRY EXPERIENCE

Research Project, University of California, San Diego, *La Jolla, CA* 1/2009–Present
Abstract: We aim to discover meaningful harmonic structures in a corpus of classical music using document modeling ideas.

Research Project, University of California, San Diego, *La Jolla, CA* 9/2006 – 9/2007
Abstract: We introduce real-time software that helps beginning musicians practice sight-reading musical scores. The software displays an animated musical score, “listens” to the player’s instrument without digital pickups, and provides immediate visual feedback distinguishing correctly versus incorrectly played notes.

Software Developer, Teranode Incorporation, *Seattle, WA* 3/2006 – 9/2006
Implemented, tested, and documented a new framework for the Teranode XDA Platform SDK in Java that allows users to load self-developed plug-ins into Teranode XDA software. Also worked with the Teranode consulting team to develop several plug-ins on top of Teranode Core for client Pfizer Inc.

Research Assistant, University of Washington, *Seattle, WA* 6/2005 – 6/2006
Designed and conducted experiments to test the effectiveness of different ensemble learning methods for detecting the presence of successful protein crystal growth in 2-dimensional crystal images.

Software Developer, Pacific Northwest National Laboratory, *Richland, WA* 6/2004 – 9/2004
Independently developed software in Perl to construct potential protein-protein interaction maps from computational inferred protein domain information to predict Human Mammary Epithelial Cell networks.

PUBLICATIONS

Diane J. Hu, and Lawrence K. Saul, “A Topic Model for Learning Musical Key-Profiles,” Submitted to *ISMIR-09*, Kobe, Japan.

Chih-Chieh Cheng, Diane J. Hu, and Lawrence K. Saul, “Nonnegative Matrix Factorization for Real Time Musical Analysis and Sight-Reading Evaluation,” *ICASSP-08*, Las Vegas, NV.

HONORS

National Science Foundation (NSF) Graduate Research Fellowship 2007 – 2010
Google Anita Borg Memorial Scholarship Finalist 2007 – 2008
UCSD Powell Foundation Junior Ph.D. Student Research Fellowship 2006 – 2007
Mary Gates Endowment Undergraduate Research Grant 2004 – 2006
Microsoft Scholarship 2004 – 2005
Washington NASA Space Grant Scholarship 2002 – 2006

ACTIVITIES

Aspiring Photographer [<http://www.flickr.com/dianejhu>], *Various* 2008–Present
Graphic Designer [<http://www.ethnos.us>], *Ethnos Community Church* 2008–Present
Volunteer Tutor (for middle and high-school students), *Achieve Tutoring Program* 2006–Present
Webdesigner [<http://www.achievesandiego.com>], *Achieve Tutoring Program* 2006 – 2008
Officer and Webdesigner [<http://www.cs.washington.edu/acmw>], *UW Chapter of ACM-W* 2004 – 2006
Peer Mentor for undergraduate women, *UW CSE* 2004 – 2006
Gospel Choir, Piano Ensemble, Private Piano Lessons, *UW School of Music* 2002 – 2005