Joyce Ho

ACES 3.106, 1 University Station C0803
Austin, TX 78712
✉ *joyceho@utexas.edu*
http://joyceho.github.io

Education

2011–Present **Ph.D student in Electrical and Computer Engineering**, *University of Texas at Austin*, Austin.
Advisors: Dr. Joydeep Ghosh and Dr. Sriram Vishwanath

2003–2004 **M.Eng in Electrical Engineering and Computer Science**, *Massachusetts Institute of Technology*, Cambridge.
Advisor: Dr. Stephen Intille

1999–2003 **B.S in Electrical Engineering and Computer Science**, *Massachusetts Institute of Technology*, Cambridge.

Publications

Joyce C Ho, Joydeep Ghosh, Steven Steinhubl, Walter Stewart, Joshua C Denny, Bradley A Malin, and Jimeng Sun. Limestone: High-throughput candidate phenotype generation via tensor factorization. under review.

Joyce C Ho, Cheng H Lee, and Joydeep Ghosh. Septic shock prediction for patients with missing data. *ACM Transactions on Management Information Systems (TMIS)*, accepted.

Yubin Park, Joyce C Ho, and Joydeep Ghosh. Multivariate temporal symptomatic characterization of cardiac arrest. In *Proceedings of the 35th International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pages 3222–3225, July 2013.

Joyce C Ho, Yubin Park, Carlos M Carvalho, and Joydeep Ghosh. DYNACARE-OP: Dynamic cardiac arrest risk estimation incorporating ordinal features. In *ICML 2013 Healthcare Workshop*, June 2013.

Joyce C Ho, Yubin Park, Carlos M Carvalho, and Joydeep Ghosh. DYNACARE: Dynamic cardiac arrest risk estimation. In *Proceedings of the Sixteenth International Conference on Artificial Intelligence and Statistics*, pages 333–341, April 2013.

Joyce C Ho, Joydeep Ghosh, and K P Unnikrishnan. Risk prediction of a multiple sclerosis diagnosis. In *Proceedings of the 2013 IEEE International Conference on Healthcare Informatics*, 2013.

Joyce C Ho, Cheng H Lee, and Joydeep Ghosh. Imputation-enhanced prediction of septic shock in ICU patients. In *ACM SIGKDD Workshop on Health Informatics (HI-KDD 2012)*, 2012.

Cheng H Lee, Natalia M Arzeno, Joyce C Ho, Haris Vikalo, and Joydeep Ghosh. An imputation-enhanced algorithm for ICU mortality prediction. *Computing in Cardiology*, 39:253–256, 2012.

Joyce Ho and Stephen S Intille. Using context-aware computing to reduce the perceived burden of interruptions from mobile devices. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI)*, pages 909–918, April 2005.

Work Experience

Present **Co-founder**, *Accordion Health*, Austin.

2013–2013 **Intern**, *Healthcare Analytics Research Group, IBM T.J.Watson Research Center*, Yorktown Heights.
- Created an unsupervised high-throughput phenotype generation model via tensor factorization
- Collaborated with medical experts to verify the clinical quality of candidate phenotypes

2012–2012 **Project Coordinator, Research**, *Center for Clinical and Research Informatics, NorthShore Health System*, Evanston.
- Created a model to predict risk of a Multiple Sclerosis diagnosis
- Developed a cardiac arrest risk prediction model

2009–2011 **System Engineer**, *Global Security, Lawrence Livermore National Laboratory*, Livermore.
- Developed streaming and distributed algorithms to detect anomalous activity in network traffic

2004–2009 **Maintenance and Commissioning Tool Lead**, *National Ignition Facility (NIF), Lawrence Livermore National Laboratory*, Livermore.
- Planned software releases, tracked schedules, prioritized work, and addressed technical issues.
- Interviewed candidates for positions within the NIF Integrated Computer Controls System group.
- Designed, implemented and tested algorithms to automate laser system calculations and verifications.

2003–2003 **Software Development Intern**, *Microsoft*, Redmond.
- Designed and implemented the Microsoft ActiveSync 4.0 Device Sync Setup Wizard.

2001–2001 **Advanced Systems Intern**, *Trimble Navigation*, Sunnyvale.
- Designed a circuit board to connect a wireless LAN card and GPS receiver for real-time collision prevention.

Academic Experience

2011–Present **Research Assistant**, *The University of Texas at Austin*, Austin, Advisor: Dr. Joydeep Ghosh and Dr. Sriram Vishwanath.
- Created a dynamic cardiac arrest risk prediction model to track individual patient's cardiac risk
- Characterized the temporal symptomatic signature of cardiac arrest
- Participated in the PhysioNet 2012 challenge and placed in the top 10
- Developed a septic shock prediction model that generalizes to patients with missing data

2003–2004 **Research Assistant**, *Massachusetts Institute of Technology*, Cambridge, Advisor: Dr. Stephen Intille.
- Developed a real-time activity detection system using wireless accelerometers, a receiver, and a PocketPC.
- Designed a rechargeable battery pack to power the PocketPC and wireless receiver.

Skills

Programming Languages: Java, C++, R, Python, SQL, Matlab, Perl, CORBA, Scheme

Honors

Awards: Innovative Signal Analysis Fellowship (2012), Cockrell School of Engineering Doctoral Fellowship (2011-2013), Microelectronics and Computer Development (2011) Fellowship

Honors: Tau Beta Pi, Eta Kappa Nu