

# Joyce Ho

## 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. *Journal of Biomedical Informatics*, submitted.

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.

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## 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.

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## 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.

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## Skills

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

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## 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