Hugh Chen

Curriculum Vitae

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Education

2018–**** **PhD in Computer Science**, *University of Washington*, Seattle, WA, *GPA 3.79*.

2016–2018 **MS in Statistics**, *University of Washington*, Seattle, WA, *GPA 3.77*.

2012–2016 **BA in Computer Science**, *UC Berkeley*, Berkeley, CA, *GPA 3.85*.

Honors and Awards

2017-2022 **Recipient of NSF Graduate Research Fellowship**.

2017-2017 **Travel Award**, *NIPS Machine Learning for Health Workshop*.

2016-2016 **High Distinction in General Scholarship**, *University of California, Berkeley*.

2015-2016 **EECS Honors Program**, *University of California, Berkeley*.

2014-2016 **President of CS Honors Society (UPE)**, *University of California, Berkeley*.

Research Projects

2019 **Explaining Models by Propagating Shapley Values of Local Components**, *Chen, Hugh, Scott Lundberg, and Su-In Lee. arXiv preprint arXiv:1911.11888* Paper.

2019 **Explainable AI for Trees: From Local Explanations to Global Understanding**, *Scott Lundberg, Gabriel Erion, Hugh Chen, Alex DeGrave, Jordan M. Prutkin, Bala Nair, Ronit Katz, Jonathan Himmelfarb, Nisha Bansal and Su-In Lee. Nature Machine Intelligence 2019 (Minor Revision).* Paper.

2017 **Anesthesiologist-level forecasting of hypoxemia with only SpO2 data using deep learning**, *Gabriel Erion, Hugh Chen, Scott Lundberg and Su-In Lee. NIPS ML4H.* Paper.

2017 **Hybrid Gradient Boosting Trees and Neural Networks for Forecasting Operating Room Data**, *Hugh Chen, Scott Lundberg, Su-In Lee. NIPS ML4H.* Paper.

2017 **Checkpoint Ensembles: Ensemble Methods from a Single Training Process**, *Hugh Chen, Scott Lundberg, Su-In Lee. arXiv preprint arXiv:1710.03282* Paper.

2016 **Probabilistic Model-Based Approach for Heart Beat Detection**, *Hugh Chen, Yusuf B. Erol, Eric Shen, Stuart Russell. Physiological Measurement, Vol. 37, No. 9, August 2016.* Paper Code.

Experience

Research

2016–201* **Research Assistant**, *University of Washington*, Dr. Su-In Lee.
Two primary research directions: machine learning for operating room data involving transfer/representation learning and interpretable machine learning (feature attributions).

2015–2016 **Research Assistant**, *University of California, Berkeley*, Dr. Stuart Russell.
Worked on probabilistic modeling techniques (dynamic bayesian network) and state estimation (particle filter, Rao-Blackwellized particle filter) for health applications.

2013–2013 **Research Assistant**, *University of Arizona*, Tucson, AZ, Dr. Hsinchun Chen.
Worked on parsing international hacker forums for cybersecurity applications.

Teaching

2015–2015 **Student Instructor**, *Discrete Math and Probability*, Dr. Umesh Vazirani.
Taught two weekly one hour discussion sections, generated hw/exam problems, graded exams, and held office hours.

2013–2013 **Reader**, *Structure and Interpretation of Computer Programs (Self-Paced)*.
Led lab sections, graded labs, homework, exams, and helped develop the course.

Industry

2014–2014 **Software Engineering Intern**, *Location Labs*, Emeryville, CA.
Backend development (Restful Web API) as well as web development.

Side Projects

2017 **Implementation of Stochastic Gradient Descent Variants**, *Hugh Chen*.

2017 **Implementation of Nonparametric (neural networks, KNNs, and decision trees) Methods**, *Hugh Chen*.

2016 **MAX-SAT Algorithms Survey**, *Hugh Chen, Yiwen Song*.

Languages

Expert **Python, C, C++, Java, Julia, R, Matlab, Git, and Latex.**

Intermediate **Scheme, HTML, CSS, MIPS.**