Christopher Xie

Contact Information

E-mail: chrisdxie@gmail.com, chrisxie@cs.washington.edu
Website: https://chrisdxie.github.io/

Research Interests

Statistical Machine Learning, Probabilistic Inference, Artificial Intelligence

Education

Ph.D., University of Washington — September 2015 - Present
Computer Science and Engineering

Bachelor of Science, University of California, Berkeley — May 2015
Electrical Engineering and Computer Science, GPA: 3.87/4.0

Research Experience

Graduate Research Assistant, University of Washington
Advisor: *Emily Fox* — September 2015 - Present

- Developing methods to solve the novel problem of cold start prediction.
- Modifying Stochastic Variational Inference for lengthy time series models including Hidden Markov Models and Autoregressive Hidden Markov Models.

Undergraduate Research Assistant, University of California, Berkeley
Advisor: *Pieter Abbeel* — June 2014 - May 2015

- Explored the use of Optimism-Driven Exploration with Model Predictive Control in order to learn system dynamics on the fly while performing specific tasks.
- Combined globally optimal planners with generic boundary value problem solvers implemented with Sequential Convex Programming to solve optimal motion planning for arbitrary dynamics.

Advisor: *Stuart Russell* — September 2013 - June 2014

- Used Contingent Bayesian Networks to attack the problem of Relation Extraction. Devised a proposal distribution for Metropolis-Hastings Markov Chain Monte Carlo inference for our model of the world. Performed inference using probabilistic programming language BLOG.

Preprints

Christopher Xie, Avleen Bijral, Juan Lavista Ferres. An Online Prediction Framework for Non-Stationary Time Series. *arXiv:1611.02365, 2016.*

Publications

Christopher Xie, Teodor Moldovan, Sergey Levine, Sachin Patil, Pieter Abbeel. Model-based Reinforcement Learning with Parametrized Physical Models and Optimism-Driven Exploration. *Proc. IEEE Int. Conf. on Robotics and Automation - ICRA, 2016.*

Christopher Xie, Jur van den Berg, Sachin Patil, Pieter Abbeel. Toward Asymptotically Optimal Motion Planning for Kinodynamic Systems using a Two-Point Boundary Value Problem Solver. *Proc. IEEE Int. Conf. on Robotics and Automation - ICRA, 2016.*

Workshop Publications

Christopher Xie, Alex Tank, Emily Fox. A Unified Framework for Missing Data and Cold Start Prediction for Time Series Data. *NIPS Time Series Workshop, 2015.*

Teaching Experience

University of California, Berkeley, Berkeley, CA

Teaching Assistant, Machine Learning Coursera Specialization — January - March, 2016
Taught by Emily Fox and Carlos Guestrin.

Teaching Assistant, CS189: Introduction to Machine Learning — January - May, 2015
Taught by Professor Peter Bartlett and Alyosha Efros.

Teaching Assistant, CS189: Introduction to Machine Learning — January - May, 2014
Taught by Professor Jitendra Malik and Alyosha Efros.

Professional Experience

Microsoft, Redmond, WA — June - September, 2016
Research Intern
Worked on Online Learning methods for Forecasting Nonstationary Time Series.

Google, Mountain View, CA — May - August, 2015
Software Engineering Intern
Worked on Google Glass (now known as Project Aura).

eBay, Inc., San Jose, CA — May - August, 2013
Applied Research Intern, Trust Science
Trained neural network and decision tree models to classify fraudulent activity using features extracted from clickstream data only. Optimized them to prevent loss from fraud.

International Computer Science Institute, Berkeley, CA — April 2012 - April 2013
Student Researcher, Artificial Intelligence Group
FrameNet: Developed software to collect crowdsourced data from Amazon Mechanical Turk.
MetaNet: Collaborated with linguists to create a Russian metaphor search using parsed Russian sentences to extract verb-noun relations and clustering algorithms to search for potential new metaphors.

Honors and Awards

National Defense Science and Engineering Graduate (NDSEG) Fellowship — 2016
CSE Educators Endowed Fellowship in Computer Science & Engineering (UW) — 2015
Draper Laboratory Fellowship (declined) — 2015
Eta Kappa Nu Membership
Student Member of IEEE

Skills

Proficient in Python, Matlab, C++, Java
Skilled at Hadoop, Hadoop Streaming, Hive, bash shell scripting/automation

Hobbies

- Taekwondo - Received medals from many national and international tournaments. Member of the Alternate Junior National Team in 2010.
- Music - Played keyboard in multiple bands, performed all over the Bay Area.