Jiyun "Ivy" Xiao

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Education

California Institute of Technology 2013-17
Bachelor of Science in Applied and Computational Math
GPA: 3.4/4.0

Shanghai Foreign Language School 2009-13
GPA: 3.9/4.0

Work Experience

Senior Thesis with Professor Yisong Yue (Work in Progress) Summer 2016 - present
Developing a random-noise-oriented latent variable model for sliding window decomposition methods within a decision tree framework using visual speech data
Developing latent variable extensions for neural network frameworks
Combined existing latent variable models for random noise with sliding window decomposition methods for decision tree

Summer Internship at Quantiacs Summer 2015
Developed test algorithms for data-driven alpha prediction for quantitative trading
Designed and implemented user interface for Quantiacs Toolbox
Invented and improved upon algorithms for global optimum parameter testing

Summer Research Caltech with Professor George Djorgovski Summer 2014
"Improving the Immersive 3D data visualization & expanding to new platforms"
Analyzed and accelerated the physical visualization process
Developed an Android App for portable data visualization

Inventor of self-adaptive valve and its patent 2011- present
Detected and analyzed valve connection problems and designed experiments for methods of improvement
Published a patent on the improved method and maintained it

Other Relevant Projects

Multi-Armed Bandit for Visual Preference Prediction Spring 2016
Developed an algorithm that combined neural network with online learning
Conducted user study and reported accurate prediction of visual preferences

Poem Generation for Shakespeare's Sonnet Winter 2016
Implemented and analyzed Hidden Markov Model (HMM) and generated poems that emulate Shakespeare's Sonnets

Sentiment Detection in Political Speech Winter 2016
Used Naïve Bayes, SVM, and decision tree to detect sentiment vectors in speech

Relevant Courses

Computer Science: Machine Learning & Data Mining; Special Topics in Machine Learning, Online Learning, Interactive Machine Learning, and Learning from Human Feedback

Mathematics: Statistics; Probabilities & Random Processes; Stochastic Calculus; Random Matrix Theory; Combinatorics & Logic; Abstract Algebra; Mathematical Optimization; Finite Difference Scheme & PDE; Complex Analysis

Programming: Matlab (proficient), Python (proficient), C# (familiar)