Shuang Liu

Contact Information

Department of Computer Science and Engineering
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Education

University of California, San Diego, Sept. 2016 - Present

- Ph.D student in Computer Science
- Research Advisor: Hao Su

Shanghai Jiao Tong University, Sept. 2012 - 2016

- B.S. in Computer Science
- Research Advisors: Karthik Sridharan, Zhihua Zhang, Xiaomin Chen

Research Interest

My research focus is on theoretical and applied machine learning. My current research interests are Reinforcement Learning and Graph Neural Networks. My past research areas include Multi-armed Bandit and Generative Adversarial Networks.

Programming Skills

C, C++, Python

Research Experience

Research Intern, Google Research, June 2021 - Sept. 2021

- Company: Google
- Project: Unified Multi-Level Document Entity Clustering by Graph Convolutional Networks

Quantitative Research Intern, Global Quantitative Strategies, June 2020 - Aug. 2020

- Company: Citadel
- Project: Futures volume prediction

Research Assistant, Sept. 2016 - Sept. 2018

- Institute: University of California, San Diego
- Mentor: Kamalika Chaudhuri
- Topics: Machine Learning Theory, Generative Adversarial Learning, Large-Scale Optimal Transport, Adversarial Examples

Research Intern, Feb. 2016 - May 2016

- Company: Yitu Technology
- Topics: Face detection and Face alignment

Research Assistant, July 2015 - Dec. 2015

- Institute: Cornell University
- Mentor: Karthik Sridharan
- Topics: Convex Analysis, Banach Space Geometry, Large-Scale Smooth Optimization, Online Learning, Bandit Convex Optimization, Partial Information Games

Research Assistant, June 2014 - June 2015

- Institute: Shanghai Jiao Tong University
- Mentor: Zhihua Zhang
- Topics: Convex Optimization, Statistical Machine Learning, Stochastic Bandit Optimization, Distributed Bandit Optimization

Publications

Conferences

- Shuang Liu, Olivier Bousquet, Kamalika Chaudhuri
  Approximation and Convergence Properties of Generative Adversarial Learning
  NeurIPS 2017

- Jiachen Li, Quan Vuong, Shuang Liu, Minghua Liu, Kamil Ciosek, Henrik Christensen, Hao Su
  Multi-task Batch Reinforcement Learning with Metric Learning
  NeurIPS 2020

Manuscripts

- Shuang Liu, Hao Su
  On the Sample Complexity of Offline Reinforcement Learning
- Shuang Liu, Hao Su
  γ-Regret for Non-Episodic Reinforcement Learning
- Shuang Liu, Kamalika Chaudhuri
  The Inductive Bias of Restricted f-GANs
- Shuang Liu, Cheng Chen, Zhihua Zhang
  Regret vs. Communication: Distributed Stochastic Multi-Armed Bandits and Beyond

Teaching Experience

Teaching Assistant, Spring 2015

- Course: Advanced Compiler Design
- Institute: Shanghai Jiao Tong University
- Instructor: Yong Yu

Teaching Assistant, Spring 2018

- Course: Introduction to AI: A Statistical Approach
- Institute: University of California, San Diego
- Instructor: Kamalika Chaudhuri

Undergraduate Course Projects

C Compiler implemented in Java

- https://bitbucket.org/sadkangaroo/compiler2014

Nachos Operating System implemented in Java

- https://bitbucket.org/sadkangaroo/nachos2014

Unix-like Shell implemented in C

- https://github.com/sadkangaroo/shellproject

Simulated GPGPU implemented in C++

- https://bitbucket.org/sadkangaroo/my-gpgpu-sim

Database Back-End implemented in C

- https://bitbucket.org/sadkangaroo/shuangliudbspring15

Database Front-End implemented in MySQL and Java

- https://bitbucket.org/vegetable_h/database-project

Graduate Course Projects

Compiler Optimization through LLVM

- https://ucsd-pl.github.io/cse231/wi17/project.html

Functional Programming (Haskell)

- https://ucsd-cse230.github.io/sp20/

Awards

2018 Google PhD Fellowship

(39 recipients from North America, Europe and the Middle East)

2015 Google Excellence Scholarship

(58 Recipients in China)

ACM International Collegiate Programming Contest, Asia Regional

- Gold Medal in Shanghai, China, 2011
- Gold Medal in Fuzhou, China, 2011
- Gold Medal in Tianjin, China, 2012
- 4th Place in Hat Yai, Thailand, 2012
- Gold Medal in Changsha, China, 2013
- Silver Medal in Changchun, China, 2013

National Olympiad in Informatics, China

- Bronze Medal (National), 2011
- Gold Medal (Province), 2007, 2008, 2009, 2010

Services

Conference Reviewer: NeurIPS 2019, ICML 2019, ACML 2019, AISTATS 2019, NeurIPS 2020

Journal Reviewer: JMLR