

Shuo YANG

Department of Computer Science, University of Texas at Austin

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EDUCATION EXPERIENCE

Department of Computer Science, University of Texas, Austin

08/2018 – Now

- Ph.D. student. Advisor: Sujay Sanghavi

Department of Electrical Engineering, Tsinghua University, Beijing

08/2014 – 07/2018

- Major GPA: 92.35 Top 3 out of 140 in the department.

School of Economics and Management, Tsinghua University, Beijing

09/2015 – 07/2018

- Double Major in Economics

Electrical and Computer Engineering, University of Texas, Austin

01/2017 – 05/2017

- GPA: 4.0 International Exchange Student Program.

RLAI Lab, University of Alberta

07/2017 – 09/2017

- Summer internship, supervised by Richard Sutton.

INDUSTRY EXPERIENCE

Amazon, Search

06/2019 – 09/2019

Applied Scientist Intern. Manager: Dan Hill

Berkeley, CA

- Customer search query understanding and inline search suggestion.

RESEARCH INTEREST

My research interest lies in theoretical machine learning, optimization and sequential decision making under uncertainty. My research goal is to build machine learning algorithms that are theoretical sound and efficient in runtime/space/sample complexity.

RESEARCH EXPERIENCE

[NeurIPS 2019]

09/2018 – 05/2019

Consistent Sparse Quadratic Regression in Sub-quadratic Time and Space

Austin, US

Advisor: Professor Sujay Sanghavi, University of Texas

- Developed a sub-linear time gradient estimation method based on the quadratic model.
- Combining the gradient estimation with iterative hard threshold, obtained a provable linear convergence rate.

Electrical Market Equilibrium Analysis with Accelerated Gradient Descent

09/2017 – 07/2018

Advisor: Professor Qixin CHEN, Chongqing KANG, Tsinghua University

Beijing, CN

- The new method framed the electrical market bidding in a reduced form, gives a simple and accurate market model for equilibrium calculation
- Integrated accelerated gradient descent algorithm to solve for the market equilibrium.

Reinforcement Learning: Fast Planning with Linear Dyna

07/2017 – 09/2017

Advisor: Professor Richard Sutton, University of Alberta

Edmonton, CA

- Developed a new planning method under the linear Dyna architecture.
- New method achieved the same data efficiency as previous Dyna method with linear time complexity and constant per-step computation. Suitable for large scale, long-term learning.

- Developed a novel extension to the control problem, with empirical results showing both high data efficiency and computation efficiency.

Automatic Curriculum Generation in Reinforcement Learning*02/2017 – 07/2017*

Advisor: Professor Peter Stone, University of Texas

Austin, US

- Designed a method to generate agent-specific curriculum automatically. Empirical results have demonstrated a 40% learning efficiency increase.
- Improved the experiment environment setting, which extends the previous experiment to a complex domain and allows for a more flexible configuration of tasks.

HONORS AND AWARDS**Tsinghua Prestigious Scholarship (Finalist)***2017***“Tang Lixin” Scholarship***2016***China Scholarship Council Excellent Undergraduate Fellowship***2016***National Scholarship***2015***Meritorious Winner of Interdisciplinary Contest in Modeling***2015***GRADUATE COURSES****Fall, 2019**

- Online Learning (Prof. Sanjay Shakkottai)
- Randomized Algorithm (Prof. Eric Price)
- Natural Language Process (Prof. Greg Durrett)
- Deep Learning Seminar (Prof. Philipp Krahenbuhl)

Spring, 2019**Grade**

- Large-Scale Optimization II (Prof. Constantine Caramanis)
- Algorithm: Techniques and Theory (Prof. Greg Plaxton)
- Theoretical Statistics (Prof. Purnamrita Sarkar)

*4.0**4.0**4.0***Fall, 2018****Grade**

- Large-Scale Optimization I (Prof. Sujay Sanghavi)
- Probability and Stochastic Process (Prof. Sanjay Shakkottai)

*4.0**4.0*