Ruohan Zhan

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EDUCATION

Stanford University *09/2017 - present*
Ph.D. student in Computational and Mathematical Engineering - GPA: 4.15/4.00

Peking University *09/2013 - 07/2017*
B.S. in Computational Mathematics - GPA: 3.86/4.00

PUBLICATION

- **Ruohan Zhan**, Bin Dong. *CT Image Reconstruction by Spatial-Radon Domain Data-Driven Tight Frame Regularization*, SIAM Journal on Imaging Sciences, 9(3), 1063-1083, 2016.
- Baichuan Yuan, Sathya R. Chitturi, Geoffrey Iyer, Nuoyu Li, Xiaochuan Xu, **Ruohan Zhan**, Rafael Llerena, Jesse T. Yen, Andrea L. Bertozzi. *Machine Learning for Cardiac Ultrasound Time Series Data*, SPIE Medical Imaging 2017.

SELECTED HONORS

- Outstanding Graduate, PKU *06/2017*
- Innovation Award, PKU *10/2016*
- National Scholarship, Minister of Education, China *10/2016*
- Lixin Tang Scholarship, PKU *10/2014, 10/2015, 10/2016*
- Finalist of the 2016 Mathematical Contest in Modeling, COMAP *04/2016*
- Qualcomm Global Scholars Award(18 female students in China) *12/2015*
- First Price in the 23th PKU Challenge Cup, with research about new charity based on social network *05/2015*

RESEARCH PROJECTS

Machine Comprehension on SQuAD using Bi-Directional Attention Flow *01/2018-03/2018*
CS 224N, Natural Language Processing with Deep Learning, Stanford University, teamed with Daisy Ding

- applied Recurrent Neural Network with the Bi-Directional Attention Flow (BiDAF) network to train a model for the machine comprehension task on the Stanford Question Answering Dataset (SQuAD).

Deep Reinforcement Learning in Portfolio Management *09/2017-12/2017*
CS 221, Artificial Intelligence: Principles and Techniques, Stanford University, teamed with Tianchang He and Yunpo Li

- used deep reinforcement learning(tensorflow) to design a reallocation strategy to maximize return at each time step, with given limited wealth distributed among a group of financial products.

Data-driven Nonparametric Option Pricing with Shape Constraints
National University of Singapore, advisors: Prof. Zuowei Shen and Prof. Steven Kou *10/2016-present*

- used Hilbert basis to approximate option pricing formula with respect to strike and time to maturity, under constraints of monotonically decreasing and convexity in strike

Adaptive Interpolation for Marginal Maximum Likelihood Estimation of Stochastic Volatility Model
Peking University, advisor: Prof. Chenxu Li *03/2017-06/2017*

- proposed an adaptive grid selecting algorithm to choose segment points for piecewise cubic polynomial expansion of marginal transition density

- used stationary distribution and uniform approximation precision to determine the range and density of segment points respectively

SERVICES

- Tutoring for LD/ADHD students, Stanford Schwab Learning Center *09/2017-12/2017*
- Mathematics Minister Yuanpei Academic Societies of Students, PKU *06/2015-06/2016*
- Teaching Assistant The Seminar for Grade One Science Students; *09/2015-01/2016*
- Volunteer for Yuanpei Library Yuanpei College, PKU *11/2013-03/2017*
- Volunteer for Hospice Department of Psychology, PKU *02/2015*
- Counsellor for Freshman in Yuanpei College. *09/2014-12/2014*