SHIQING (WARREN) SUN

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EDUCATION

Johns Hopkins University **GPA 3.91** 2018.08 - Present
PhD in Applied Mathematics and Statistics *Baltimore, MD*
Master of Science in Engineering, Computer Science (Dual Degree)
Johns Hopkins University **GPA 3.97** 2016.08 - 2018.05
Master of Science in Engineering, Financial Mathematics *Baltimore, MD*
Fudan University 2011.08 - 2016.06
Bachelor of Science, Mathematics *Shanghai, CN*

WORK EXPERIENCE

Parametric Portfolios Associates LLC 2019.06 - 2019.08
Machine Learning Intern *Seattle, WA*

· Applied various statistical learning models to automate portfolio manager's decision-making process of trading based on tax loss-harvesting and invented standard work-flow for model improvement
· Researched Learn-to-Rank models, and implemented RankNet, achieving significantly better prediction accuracy than statistical learning models

Graphen Inc 2018.06 - 2018.08
Quantitative Research Summer Intern *New York, NY*

· Researched deep reinforcement learning models, and implemented double deep Q-network models for trading strategies
· Constructed various machine learning models for stock prediction, and optimized over 20 various parameters to achieve best prediction accuracy

RESEARCH

Deep-Learning Experiments of DiagSPSA 2019.04 - present

· Creating new optimizer to implement DiagSPSA in Keras, TensorFlow and PyTorch
· Making comprehensive comparisons between DiagSPSA against state-of-the-art algorithm over top data-sets on github

SPSA Method Using Diagonalized Hessian Estimate 2017.06 - 2019.03
Accepted as publication in 2019 IEEE Conference on Decision and Control (CDC)

· Invented new algorithm (DiagSPSA) for stochastic optimization problems, based on second-order Hessian information but with lower computation cost
· Provided theoretical proof for asymptotic normality and efficiency of algorithm

PUBLICATIONS

Sun, S. and Spall, J. C. (2019), "SPSA Method Using Diagonalized Hessian Estimate," *Proceedings of the IEEE Conference on Decision and Control*, Nice, France, *to appear*.

SERVICE

- Assisted in reviewing manuscripts for IEEE Transactions on Industrial Electronics
- Served as Student Representative in 2018 Whiting School of Engineering Graduate Committee in Johns Hopkins Univ.

TECHNICAL SKILLS

Programming Language Python, C++, Matlab, SQL
Software & Tools Latex, TensorFlow, Pytorch, Fastai, Google Cloud Platform