Jianfei Ma

Research Interests

Deep Reinforcement Learning, Optimization, Bayesian Inference, MCMC

Education

Northwestern Polytechnical University Shaanxi, Xi'an
Candidate for B.S. in Statistics *Aug. 2019 – May 2023*

- Overall GPA: 3.74/4.1 (90.36/100)
- Rank: 1/24
- Major Courses: Mathematical Analysis, Linear Algebra, Real Analysis, Functional Analysis, Abstract Algebra, Probability, Mathematical Statistics, Stochastic Process, Optimization, Differential Geometry
- Other Courses: Reinforcement Learning, Machine Learning, Statistical Learning, Data Structures
- Language Achievements: CET-4 505, CET-6 538

Preprint

- Ma, J. Entropy Augmented Reinforcement Learning. (arXiv,2022), https://arxiv.org/pdf/2208.09322.pdf

Experience

Meta Reinforcement Learning Jan. 2022 – Jun. 2022
Research Intern *Peking University*

- Reproduced Bootstrapped Meta-Learning paper
- Extended BMG to new meta-learning frames – TorchOpt and MetaOptim

Graphical Reinforcement Learning and Its Application Jan. 2022 – Apr. 2022
Student Researcher *Northwestern Polytechnical University*

- Combined RL methods with shortest path problem setting
- Modified policy update rule of a multi-task driven problem
- Developed multi-agent model with sequential dispatch method

Deep Learning for Thermodynamic Prediction Oct. 2021 – Present
Main Contributer *Northwestern Polytechnical University*

- Trained convolutional neural network specified in prediction of thermodynamic properties of materials
- Achieved speedup of training procedure by dimentionality reduction method
- Utilized Von Neumann entropy for information evaluation and better interpretability

Projects

MagiOPT Jun. 2022 – Jul. 2022

- A Unified Pytorch Optimizer for Optimization

Awards

ASC Student Supercomputer Challenge Jan. 2022 – Mar. 2022

- Second Class Prize

Mathematical Contest In Modeling Feb. 2021

- Honorable Mention

Skills

Programming Language: Python, C/C++, R, Matlab, Lingo, Cuda
Framework & Tools: LaTeX, Emacs, Pytorch, Tensorflow