

Jianfei Ma



RESEARCH INTERESTS

SWIRL: Sample Efficiency, World Models and Intrinsic Motivation for Reinforcement Learning

EDUCATION

Northwestern Polytechnical University

Candidate for B.S. in Statistics

Shaanxi, Xi'an

Aug. 2019 – Jul. 2023

- Overall GPA: 3.744/4.1
- 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, Statistical Learning, Machine Learning, Data Structures and Algorithms

PREPRINT

- Ma, J. [Distillation Policy Optimization](#). (In submission to ICML, 2024)
- Ma, J. [Entropy Augmented Reinforcement Learning](#). (arXiv, 2022)

PUBLICATION

- Ma, J. [Discerning Temporal Difference Learning](#). (AAAI, 2024)
- Ma, J. [Generative Intrinsic Optimization: Intrinsic Control with Model Learning](#). (NeurIPS Workshop IMOL, 2023)
- Ma, J. [The Point to Which Soft Actor-Critic Converges](#). (ICLR Tiny Papers, 2023)

EXPERIENCE

Distributional Model-based RL via Variational Inference

Research Intern with [Huazhe Xu](#)

Jun. 2023 – Present

Tsinghua University

- Developing a distributional control method through probabilistic inference.
- Unifying joint evaluation & control with a world model.

Average-Reward Least Squares Temporal Difference Methods

Research Intern with [Shanglong Zhang](#)

Sep. 2022 – Dec. 2022

University of Virginia

- Extended average-reward off-policy LSTD(λ) based on MSPBE objectives
- Conducted convergence analysis of the algorithm

Meta Reinforcement Learning

Research Intern with [Yaodong Yang](#)

Jan. 2022 – Jun. 2022

Peking University

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

PROJECTS

MagiOPT

- A Unified Pytorch Optimizer for Numerical Optimization

Jun. 2022 – Jul. 2022

AWARDS

ASC Student Supercomputer Challenge

Second Class Prize, 2022

Mathematical Contest In Modeling

Honorable Mention, 2021

Sanhang Cup Football Tournament

Runner-up, 2020

Freshman Cup Football Tournament

Champion, 2019

Outstanding College Student

3 consecutive years

First-class Scholarship

2021 & 2022

SKILLS

Programming Language: Python, C/C++, Bash, R, Matlab, Lisp

Framework & Tools: Git, LaTeX, Emacs, Pytorch, Tensorflow, JAX, Flax