

# Jianfei Ma



## RESEARCH INTERESTS

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

## EDUCATION

**National University of Singapore**

Singapore

**Doctor of Philosophy** in Computer Science

*Aug. 2024 – Present*

Advisor: Prof. Wee Sun Lee

**Northwestern Polytechnical University**

Xi'an, Shaanxi

**Bachelor of Science** in Statistics

*Aug. 2019 – Jul. 2023*

## PREPRINT

- Ma, J. [Distillation Policy Optimization](#). (arXiv, 2023)
- 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**

Jun. 2023 – May 2024

Research Intern with [Huazhe Xu](#)

*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**

Sep. 2022 – Dec. 2022

Research Intern with [Shangdong Zhang](#)

*University of Virginia*

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

**Meta Reinforcement Learning** 

Jan. 2022 – Jun. 2022

Research Intern with [Yaodong Yang](#)

*Peking University*

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

## PROJECTS

**MagiOPT** 

Jun. 2022 – Jul. 2022

- A Unified Pytorch Optimizer for Numerical 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++, Bash, R, Matlab, Lisp

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