Haoran He

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🎓 Education

Shanghai Jiao Tong University (SJTU), Shanghai, China   2019 – Present
Undergraduate student in Computer Science (CS)

🌐 Interests

I am now pursuing bachelor Degree in Shanghai Jiao Tong University, and I participated in APEX Lab in May. 2020, advised by Prof. Weinan Zhang.

My current research interests lie in the general area of reinforcement learning, particularly in imitation learning and its application in the real environment. I also focus on the popular methods in other machine learning areas.

👥 Experience

Sim2Real Project   Feb. 2022 – Present

Role: Member of the group

Brief introduction: Close the sim-to-real gap and accomplish more efficient policy transfer. Advised by prof. Weinan Zhang.

- Investigated popular methods and theories in the sim2real field
- Finding an efficient way to exploit simulation-based training in real-world settings.

Anti-poaching Project   Sep. 2021 – Mar. 2022

Role: Individual Projects, Project Principal

Brief introduction: Take advantage of limited data to predict areas with a high risk of poaching. Collaborated with WWF and National Nature Reserves, and advised by prof. Fei Fang from CMU.

- Investigated popular methods and theories in this field
- Designed a new network inspired by meta-learning and GNN
- Exploring some exciting features of the results produced by transfer learning

ML in real-time rendering Project   Oct. 2021 – Jan. 2022

Role: Project Principal

Brief introduction: Design a new light-weighted network to predict illumination in less time and with guaranteed accuracy. Advised by prof. Bin Sheng and prof. Ran Yi from SJTU.

- Investigate popular networks in this field
- Designed a new network named bi-cgan, which combines cGAN and BCNN networks.
- Proved bi-cgan can get better performance in robustness and efficiency.

Linux System Project   Mar. 2021 – Jun. 2021

Brief introduction: Optimize process management in Linux system. Advised by prof. Fan Wu from SJTU.

- Learned shell scripts and Linux kernel
- Designed a new Weighted Round Robin scheduling methods and it performs better than traditional methods

PRP(Participation in Research Program) Project   Sep. 2020 – Mar. 2021

Role: Header of the whole team

Brief introduction: Explore the interpretability of machine learning and the relationship between information theory and machine learning. Advised by Prof. Fan Cheng from SJTU.

- Learned basis of information theory and popular methods of ML
- Implemented a large number of CV experiments to explore the influence of information entropy, mutual information and so on.

Intern in robocup team of SJTU   Sep. 2019 – Feb. 2020

Brief introduction: Study Machine Debugging and Software Simulation and prepare for the contest.

- Learned basis of Signals and Control Systems
- Wrote quantity of scripts
- Deployed new aggressive and defensive algorithms on robots, and then recorded effects.

⚙ SKILLS

- Programming Languages: C == C++ == Python > Rust
- Platform: Linux or Windows
- Tools: git for code management and ArcGis for geographic information system; Pytorch and Tensorflow for designing neural networks
- Development: Machine learning, Reinforcement Learning, Data Analysis

♡ HONORS AND AWARDS

1st *Prize* in school robocup competition	2019
Merit Student in SJTU	2020
Cosco shipping scholarship	2020
Honorable Mention in Mathematical Contest In Modeling	2020
University merit scholarship	2021

ⓘ MISCELLANEOUS

- GitHub: https://github.com/tinberhhr
- Languages: English - Fluent, Mandarin - Native speaker
- Hobbies: Running, playing ping pong, and reading.