

Wang Yuhao

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Education

Nanjing University of Science and Technology, Bachelor in Electronic and Information Engineering Sep 2020 – June 2024

- GPA: 3.6/4.0
- *Outstanding Student Scholarship* of Nanjing University of Science and Technology

National University of Singapore, Master in Electronic and Computer Engineering Aug 2024 – Now

Skill List

- Proficient in Python (PyTorch, dgl, gym and other related packages), familiar with C++, C, Matlab, LEAN4.
- Experienced in Deep Learning and Reinforcement Learning.
- Familiar with linux system and other basic experiment platform.
- Skilled use of FPGA, MCU and other hardware equipment.

Experiences

Graph neural networks based cross-layer routing in mobile multi-hop networks Dec 2022 – Apr 2023

- My paper "*Multi-agent graph reinforcement learning based cross-layer routing for mobile ad-hoc network*" was published in the "Internet of Things, Communication and Intelligent Technology International Conference (IoTCIT)" with me as the first author.
- I independently completed MA-DGN reinforcement learning routing algorithm design and training. I also finished experiment design, and built the experiment environment independently.

Reinforce Learning based adaptive adversarial denial of service attacks Dec 2023 – Mar 2024

- In the project "Adaptive adversarial Dos attack", I independently constructed the intelligent attacker, and completed the algorithm design, experimental platform construction, and analysis of the experiment.
- I also independently completed the adaptive dos attack sequence decision modeling, designed the partially-observed Reinforcement Learning algorithm with transfer learning solution, and participated in the adversarial detector design and improvement.
- The paper "*AdaDoS: Adaptive DoS Attack via Deep Adversarial Reinforcement Learning in SDN*" is in submission to ACM NDSS.

Internship in GalaxeAI of suzhou Mar 2023 – June 2024

- I participate in the voxel dataset production of 3D-Occupancy automatic driving perception model and the training pipeline optimization.
- I participate in the perception implementation and optimization with ROS, and take charge of part of O&M of server cluster.

AI4MATH in Peking University June 2024 – July 2024

- I participate in the construction of math dataset for LLM and test of the automatic proving system, using LEAN4 for formalization of mathematic proving in fields of *Abstract Algebra*.

Prompt embedding compression for LLM Mar 2024 – Sep 2024

- I lead a student team and working on the research of embedding based token compression for LLM. We create project from scratch, including dataset generation, training pipeline and algorithm improvement.
- As a result, we build a compressor which can compress long sentence into LLM-understandable embedding and expand vocabulary dictionary, we are also working on build a shared-parameter model which can play both role of compressor and decompressor.