Jingze Gai

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Education

Nanyang Technological University, MS in Artificial Intelligence — Aug 2024 – Dec 2025 (Estimated)

- GPA: 4.5/5.0
- **Selected Courses:** Deep Learning & Applications, Large Language Models, Computer Vision

Zhejiang University, BS in Computer Science — Dec 2017 – Jun 2021

- GPA: 3.65/4.0
- **Selected Courses:** Operation System, Computer Architecture, Software Engineering
- **Thesis: Bandwidth Prediction in 5th Generation Cellular Networks** — Developed an LSTM-based model for bandwidth time-series prediction using multi-location datasets (supervised by Prof. Yi Gao).

Research Experience

Semi-supervised SAR-optical Image Matching

- Developed a semi-supervised RSI matching approach that uses pseudo-labeled similarity maps and a cross-modal feature enhancement module to reduce annotation effort while achieving strong performance on datasets with scarce labeled data. Trained and evaluated on the Sen1-2 dataset with only 6.25% of the data labeled; Outperforms state-of-the-art fully supervised baselines on several metrics (e.g., RMSE, correct matching rate with threshold), while remaining comparable on the others.
- Conducted under the guidance of Assoc. Prof. Changchun Li; code implementation and manuscript preparation completed independently.
- Full paper: https://arxiv.org/abs/2508.07812.
- Code: https://github.com/GaiJingze/Semi-supervised-SAR-opt-Matching

LLM Backdoor Detection Leveraging Attention Distribution (In Progress)

- Developing a novel detection method that identifies backdoors in LLMs by analyzing abnormal attention distributions across different layers.
- Verified feasibility on BERT-based models under trigger-insertion attack scenarios. Extending research to broader encoder-decoder-based architectures and non-trigger attack methods.Aiming to publish results in a peer-reviewed venue upon successful completion of ongoing experiments.

Work Experience

Game Engine Developer, Booming Tech – Hangzhou, China — June 2021 – Dec 2023

- Collaborated with game client developers to design and implement new features on our self-developed game engine — 'Chaos'.
- Developed and integrated toolsets (e.g., landscape editor, behavior tree generator) to enhance engine functionality and support game development workflows.

Language Proficiency & Test Scores

IELTS: Overall score 7.5 (all bands $\geq$ 6.5)

GRE: Total 334 — Verbal Reasoning: 164, Quantitative Reasoning: 170, Analytical Writing: 3.5