Zhecheng Yu

✉ yuzhecheng@seu.edu.cn   •   🌐 polluxiaga.github.io

Experiences

○ **Visiting Scholar** – *National University of Singapore, Singapore*   *Aug 2025 – Apr 2026 (expected)*
○ **BEng** – *Southeast University, Nanjing, China*   *Aug 2022 – Jun 2026 (expected)*
Training Base for Top Students in Computer Science (top 20 CS undergraduates)   Avg. Score: 89.29

Research Interests

Computer Vision, Multimodal learning, Explainable AI

Publications

[1] **Learning from Human Gaze: Human-like Robot Social Navigation in Dense Crowds**   *AAAI 2026*
Zhecheng Yu, Yan Lyu, Chen Yang, Tao Chen, Yishuang Zhang, Bo Ling, Peng Wang, Guanyu Gao, Weiwei Wu, Brian Y. Lim

Projects

Imaginative XAI
Supervisor: *Prof. Brian Y. Lim, National University of Singapore*   *Aug 2025 – present*

· Impute hard-to-acquire modalities via generation techniques to improve downstream decision-making performance.
· Synthesize intuitive non-verbal rationalizations (e.g., visual simulation) to lower the cognitive load of interpretation.
· Generate diverse counterfactuals to challenge user prior belief and reduce confirmation bias in human reasoning.

Gaze-Augmented AI
Supervisor: *Prof. Yan Lyu, Southeast University*   *Jun 2024 – present*

○ **Comprehensive Egocentric Gaze-Motion Dataset for Crowd Navigation Analysis**   *Nov 2025 – present*
· Develop a gaze-semantic system integrating gaze data with SOTA CV models to bridge the gap from pixels to semantics.
· Integrate IMU data to capture head orientation and rotational dynamics, enabling a holistic analysis of visual exploration.
· Conduct a comprehensive behavioral analysis across diverse demographics, navigational intents, and crowd densities.

○ **From Gaze to Human-like Robot Crowd Navigation**   *Nov 2024 – Jul 2025*
· Collected an egocentric dataset featuring synchronized human gaze, video, and trajectory data in real-world crowds.
· Developed a modular framework that predicts human-like gaze to identify socially saliency and guide navigation.
· Demonstrated that incorporating human gaze improves both navigation performance and human alignment.

○ **VR-Based Gaze Projection onto RGB-D Videos**   *Jun 2024 – Nov 2024*
· Developed eye tracking and gaze interaction functionalities in a virtual environment with a MR headset and Unity.
· Integrate the MR headset with a depth camera into a multimodal data collection tool for real-world eye tracking.
· Matched gaze vectors to 3D pixels by maximizing directional similarity, mapping 2D gaze points onto the RGB video.

Extracurricular Experiences

Head of the Organizational Department   *The CSE Students' Union, Southeast University*   *Sep 2023 – Jun 2024*
· Planned, organized and hosted large-scale campus events
· Demonstrated strong leadership and teamwork skills

Awards

○ **Excellent Research-based Final Year Project (FYP)**   (top 24 undergraduates university-wide)   *Dec 2025*
○ **China-Singapore SIP International Scholarship**   *10,000 CNY*   (1/304)   *Oct 2025*
○ **National Grand Prize**   *2024 National English Competition for College Students*   (top 1‰)   *May 2024*