

Zhecheng Yu

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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 AI, 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 salient 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)
- **China-Singapore SIP International Scholarship** 10,000 CNY (1/304)
- **National Grand Prize** 2024 National English Competition for College Students (top 1%)

Dec 2025

Oct 2025

May 2024