Zhecheng Yu

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Experiences

- **AI Researcher (Internship)** – KnowinAI, Shenzhen, China *Apr 2026 - present*
- **Visiting Scholar** – National University of Singapore, Singapore *Aug 2025 – Apr 2026*
  NUS Ubicomp Lab PI: Brian Y. Lim
- **BEng** – Southeast University, Nanjing, China *Aug 2022 – Jun 2026 (expected)*
  Training Base for Top Students in Computer Science (6/top 20 CS undergraduates) Avg. Score: 89.29

Research Interests

Computer Vision, Robotics, 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

Explainable Visual Abduction

Collaborator: *Prof. Brian Y. Lim, NUS* *Aug 2025 – present*

· Generate visually-grounded hypotheses instead of purely textual guesses to enable perceptual-level reasoning.
· Implement a selective abduction loop to eliminate inconsistent explanations and identify the most plausible cause.

Gaze-Augmented AI

Collaborator: *Prof. Yan Lyu, SEU & Prof. Brian Y. Lim, NUS* *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.

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

- **Outstanding 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*