AO YUZHUO

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Hong Kong SAR, China

RESEARCH INTEREST

My research interests primarily focus on machine learning and computer vision. Specifically, I am particularly interested in unified modeling for 2D and 3D and human-like understanding of real world. My recent interests are centered on 3D vision.

EDUCATION

The Hong Kong University of Science and Technology 2023/9 - 2027/9 (expected)
BSc in Data Science and Technology with Extended Major in AI (DSCT+AI) *Hong Kong SAR, China*

Nanyanng Technology University 2025/06 - 2025/07
Summer Exchange Program *Singapore*

École Polytechnique Fédérale de Lausanne 2026/2 - 2026/7 (expected)
Exchange Program in Computer Science section *Lausanne, Switzerland*

PUBLICATIONS

- **ReasonNav: Human-Inspired Global Map Reasoning for Zero-Shot Embodied Navigation** *Under review*
  Yuzhuo Ao*, Anbang Wang*, Yu-Wing Tai, Chi-Keung Tang
  ** Equal contribution.*

- **XToM: Exploring the Multilingual Theory of Mind for Large Language Models** *Under review*
  Chunkit Chan, Yauwai Yim, Hongchuan Zeng, Zhiying Zou, Xinyuan Cheng, Zhifan Sun, Zheye Deng, Kawai Chung, **Yuzhuo Ao**, Yixiang Fan, Cheng Jiayang, Ercong Nie, Ginny Y. Wong, Helmut Schmid, Hinrich Schütze, Simon See, Yangqiu Song

PROJECTS

ReasonNav: Human-Inspired Global Map Reasoning for Zero-Shot Embodied Navigation *2025/06 - 2025/09*
Advised by Prof. Chi-Keung Tang And Prof. Yu-Wing Tai

- Developed ReasonNav, a framework that leverages MLLMs for global reasoning and a deterministic planner for local navigation, creating a novel reason-then-act paradigm.
- Enabled unified, zero-shot navigation across diverse tasks (object, image, text goals), eliminating the need for task-specific fine-tuning or reinforcement learning.
- Demonstrated superior performance over existing methods in efficiency and reliability.

XToM: Exploring the Multilingual Theory of Mind for Large Language Models *2024/11 - 2025/06*
Advised by Prof. Yangqiu Song

- Contributed to a new multilingual benchmark (XToM) for evaluating Theory of Mind (ToM) in Large Language Models across five languages and diverse scenarios.
- Devised an automatic data validation pipeline to ensure the quality and robustness of the benchmark data, enhancing the reliability of the evaluation framework.

HONORS AND AWARDS

HKUST Study Abroad Support (2025 Fall)

University's Scholarship Scheme for Continuing Undergraduate Students (2024 Fall)

S. S. Chern Class Scholarship (for top math students in HKUST) (2024 Spring)

Dean's List (2025 Spring, 2024 Spring, 2023 Fall)

University Admission Scholarship (2023 Summer)

EXTRACURRICULAR ACTIVITIES

32nd Executive Committee of Film Society, HKUSTSU 2025/05 - 2026/05
Executive Committee Member *Hong Kong SAR, China*

SKILLS

Programming Languages	Python (Proficient), C/C++ (Proficient), R (Familiar)
Languages	Mandarin (Native), English (Proficient - IELTS 7.0)