

Mingyu Ouyang

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EDUCATION

National University of Singapore

Ph.D. in Computer Science

M.Sc. in Data Science and Machine Learning

Singapore

Aug. 2023 – Present

Aug. 2023 – Dec. 2025

Wuhan University

B.Sc. in Geospatial Informatics and Digitalized Technology

Wuhan, China

Sep. 2019 – Jul. 2023

GPA: 87.54/100; **Ranking:** 3/52 (2021-22), 16/52 (2020-21) in the annual assessment

Honours: First-class Undergraduate Scholarship (top 5%, 2022), Imperial College London Winter Program - Best Final Project (1 of 16, 2022), Top 10 Rising Stars Mentioned at the School of Remote Sensing (2021, 2023)

PUBLICATIONS

[arXiv '26] GameWorld: Towards Standardized and Verifiable Evaluation of Multimodal Game Agents

Mingyu Ouyang*, Siyuan Hu*, Kevin Qinghong Lin, Hwee Tou Ng, Mike Zheng Shou

- Standardizes multimodal game-agent evaluation across 34 browser games and 170 tasks with paused sandbox execution, dual agent interfaces, and deterministic state-verifiable scoring.

[CVPR '26] FocusUI: Efficient UI Grounding via Position-Preserving Visual Token Selection

Mingyu Ouyang, Kevin Qinghong Lin, Mike Zheng Shou, Hwee Tou Ng

- Selects instruction-relevant UI tokens while preserving positional continuity, improving grounding accuracy and efficiency under aggressive token reduction.

[AAAI '26] SlideTailor: Personalized Presentation Slide Generation for Scientific Papers

Wenzheng Zeng*, Mingyu Ouyang*, Langyuan Cui*, Hwee Tou Ng

- Generates user-aligned editable slides from papers using example-based preference conditioning, visual templates, and a chain-of-speech planning mechanism.

[arXiv '24] The Dawn of GUI Agent: A Preliminary Case Study with Claude 3.5 Computer Use

Siyuan Hu, Mingyu Ouyang, Difei Gao, Mike Zheng Shou

- Case study of Claude 3.5 Computer Use on diverse desktop tasks, with an out-of-the-box framework and analysis of planning, action, and critic limitations.

[TIP '24] JPEG Quantized Coefficient Recovery via DCT Domain Spatial-Frequency Transformer

Mingyu Ouyang, Zhenzhong Chen

- Introduces DCTransformer to recover JPEG-quantized DCT coefficients with joint spatial-frequency modeling across varied compression quality factors.

[CVPR '24] AssistGUI: Task-Oriented PC Graphical User Interface Automation

D. Gao, L. Ji, Z. Bai, M. Ouyang, P. Li, D. Mao, Q. Wu, W. Zhang, P. Wang, X. Guo, H. Wang, L. Zhou, Mike Z. Shou

- Introduces a 100-task Windows GUI benchmark and a four-agent framework for task decomposition, GUI parsing, action generation, and reflection.

PROFESSIONAL EXPERIENCE

Uselt AI

Co-founder

- Led GUI agent development and agent workflow orchestration, focusing on creating, editing, and deploying personal agents.

Singapore

Mar. 2025 - Oct. 2025

Sensetime Singapore Research

Algorithm Researcher Intern

- Developed efficient low-level deep learning models for RAW image processing, including noise synthesis and learned Image Signal Processing for camera/phone in-built modules.

Singapore

Dec. 2023 - Oct. 2025

Tencent Technology

Machine Learning Engineer Intern

- Implemented GPS data processing using Hadoop and Spark. Developed and maintained an internal service that automatically executes daily tasks, handling over **10 billion callbacks per hour**.

Beijing, China

Mar. 2022 - Oct. 2022

Springturn Education Technology

Co-founder, Software Developer

- Co-founded the company and secured an Angel Investment exceeding **¥1 million** in the second year of business.

Zhuhai, China

Nov. 2020 - Sep. 2021

RESEARCH EXPERIENCE

ShowLab, NUS

- Focus: MLLM-based multimodal agents, including GUI, computer-use, games; Agent-environment interaction.

Aug. 2023 – Present

IIP Lab, Wuhan University

- Focus: Low-level vision tasks, including image super-resolution, denoising, JPEG artifact removal.

Oct. 2022 – Jul. 2023

State Key Lab of Information Engineering in Surveying, Mapping and Remote Sensing

- Focus: 3D scene perception, fusing point cloud and BEV images for road scenes understanding.

Sep. 2021 – June. 2022

EXTRACURRICULAR ACTIVITIES

Wuhan University Football Team

- Served as captain and led the team to win the championship at the 16th Hubei Province Games (2022).