Mingyu Li

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Education

Peking University (PKU), Undergraduate in Computer Science (**Turing Class**) Sept 2023 – present

- Average point: 88.6/100

Research Interests

My ultimate research goal is to build **world models** that unify generation and understanding.
Motivated by this, I currently work on **generative** methods for controllable high-dimensional content, such as talking-face video and human motion, focusing on precise and efficient control of complex behaviors. I am also very interested in the **understanding** side, since I believe that unifying generation and understanding is a necessary step toward truly powerful world models.

Publications

VibeAvatar: Efficient Long-term Talking Avatar Generation with Lip-sync Consistency and Aesthetic Preference Alignment *Arxiv* 2025

Mingyu Li[†], Qilin Wang[†], Hao Tang[*] (Peking University)

[†] *Equal contribution.* [*] *Corresponding author.*

We enhance speech representations and employ fine-grained motion control to achieve more efficient and lightweight talking-avatar video generation that better aligns with human aesthetic preferences.

Honors & Awards

John Hopcroft Scholarship 2025
Peking University

Second Prize in Problem Setting 2025
23rd Programming Competition of Peking University

Second Prize 2024
22nd Programming Competition of Peking University

Silver Medal 2021
National Olympiad in Informatics (NOI)

Research Experiences

Research Intern, Peking University – Beijing, China Sept 2025 – present
(Advised by Prof. Hao Tang)

- Started working on controllable talking-face video generation, focusing on strengthening and refining audio-conditioned control signals for facial motion and expression. Explored different post-training strategies to impose fine-grained external constraints on the generated talking-avatar videos, leading to **VibeAvatar**.

Summer Intern (Remote), UC Berkeley – Berkeley, CA, USA June 2025 – Sept 2025
(Advised by Prof. Zeyu Zheng & Prof. Cihang Xie)

- Studied and implemented distillation and accelerated sampling techniques for diffusion and rectified-flow-based generative models. Reproduced several model distillation methods, and systematically analyzed how different sampling schedules affect generation quality and sampling efficiency.

Research Intern, Peking University – Beijing, China Feb 2025 – June 2025
(Advised by Prof. Shanghang Zhang)

- Participated in the development of a large-scale embodied agent system based on large language models (LLMs). Worked on enhancing agents' reasoning and adaptation capabilities across diverse tasks and environments using reinforcement learning and Monte Carlo Tree Search (MCTS).

Projects

GameAI: Othello & Mahjong

- Developed game AIs based on deep learning and MCTS for Chinese Standard Mahjong and Othello. The AIs are currently ranked 44/715 (Mahjong) and 63/717 (Othello) on Botzone, a widely used competitive game-AI platform in China.

Skills

- **Programming:** Python (PyTorch), C++
- **Languages:** Mandarin (native), English (TOEFL 103/120)

Miscellaneous

- **Magic:** Practicing magic since middle school; active member of the PKU Magic Club.
  - Guest magician at Peking University magic shows $(\times 4)$.
  - Guest performer at the New Year Gala of the School of Psychology and Cognitive Sciences, Peking University.
  - Guest performer at the New Year Gala of the College of Chemistry and Molecular Engineering , Peking University.
  - Warm-up magic performer at Lectures hosted by Tsinghua University.
- Enjoy travelling & listening to music in my spare time.