# Yanheng **He**

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## Research Interests

I am interested in building robust AI systems that can solve real-world problems. Currently, I am enthusiastic about **Agents**, with broad interests spanning the intersection of **NLP**, **CV**, and **RL**.

## Education

**Shanghai Jiao Tong University** — *Shanghai, China*

B.S. in Computer Science, ACM Honors Class — *Sept. 2022 - Present*

- **ACM Honors Class** is an elite CS program for top 5% talented students in SJTU.
- GPA: 4.06/4.3, Avg Score: 92.75/100, **Ranking: 1/30** (2nd & 3rd year).

## Experience

**New York University** — *New York, USA*

Research Intern, advised by Prof. Saining Xie — *May 2025 - Present*

- **Research Topics: Multimodal Agents, RL.**

**Shanghai Jiao Tong University** — *Shanghai, China*

Research Intern, advised by Prof. Pengfei Liu — *Jun. 2024 - Apr. 2025*

- **Research Topics: Agents, Reasoning.**

## Selected Publications

** indicates equal contribution*

**Efficient Agent Training for Computer Use** — *ICLR*

**Yanheng He***, Jiahe Jin*, Pengfei Liu — *2026*

- Introduces PC Agent-E, an efficient agent training framework that significantly reduces reliance on large-scale human demonstrations. With just 312 high-quality trajectories, PC Agent-E outperforms Claude 3.7 Sonnet, setting a new open-source SOTA for Windows computer use.

**Revisiting 3D LLM Benchmarks: Are We Really Testing 3D Capabilities?** — *ACL Findings*

Jiahe Jin*, **Yanheng He***, Mingyan Yang* — *2025*

- Identifies "2D-Cheating" problem in 3D LLM evaluation, where tasks can be solved using 2D rendered images instead of true 3D understanding, and proposes better evaluation principles to assess genuine 3D capabilities.

**PC Agent: While You Sleep, AI Works - A Cognitive Journey into Digital World** — *Technical Report*

**Yanheng He***, Jiahe Jin*, Shijie Xia, Jiadi Su, Runze Fan, Haoyang Zou, Xiangkun Hu, Pengfei Liu — *2024*

- Introduces PC Tracker, a lightweight infrastructure for efficiently collecting large-scale human-computer interaction trajectory data, enabling AI agents to learn complex digital work from human demonstration.

**Synthesizing Verified Mathematical Problems** — *NeurIPS MATH-AI Workshop*

Xuefeng Li, **Yanheng He**, Pengfei Liu — *2024*

- Synthesizes verifiable math problems by converting them to code-based algorithms and generating new contextualized variations.

## Honors & Awards

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| 2025 | **National Scholarship**, Top 0.2% national-wide | *China* |
| 2024 | **Foresight-HongShan Scholarship**, 5 winners at Shanghai Jiao Tong University | *SJTU* |
| 2024 | **Outstanding Summer School Student**, Best of Shanghai Jiao Tong University | *PKU-THU-SJTU* |
| 2023 | **Longfor Scholarship**, 10 winners at Shanghai Jiao Tong University | *SJTU* |
| 2022 | **First Prize**, The 14th Chinese Mathematics Competitions | *Shanghai* |

## Teaching

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|---|---|---|
| 2024 | **Teaching Assistant**, Optimization | *SJTU* |
| 2024 | **Teaching Assistant**, Data Structure | *SJTU* |
| 2023 | **Teaching Assistant**, Programming | *SJTU* |

## Selected Projects

### UI-RFT *Python*

Reinforcement Learning *2025*

- Pioneered RL with verifiable rewards to enhance VLMs' GUI grounding capabilities.

### ACore *Rust*

System *2024*

- Built a **Microkernel OS** from scratch featuring U-mode process management, SV39 virtual memory, and a Bash-like shell.

### Mx Compiler *Java*

Compiler *2023*

- Developed a **10k+ lines compiler** for a C-and-Java-like language, utilized LLVM IR and implemented several optimizations.

### RISC-V CPU *Verilog*

Architecture *2023-2024*

- Designed a RISC-V CPU with the Tomasulo algorithm and successfully deployed it on a FPGA platform.

## Skills

**Programming Languages** *Python, Rust, C/C++, Java, Verilog*