

Yuhao Shen

The Chinese University of Hong Kong, Shenzhen

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Education

The Chinese University of Hong Kong, Shenzhen

Shenzhen, China

Master of Philosophy in Computer Science

Sept. 2025 – Jun. 2027

- **Advisor:** Prof. Juexiao Zhou
- **Research Interests:** AI for Healthcare, Medical LLMs and LLM Reasoning

Hangzhou Dianzi University

Hangzhou, China

Bachelor of Engineering in Computer Science and Technology

Sept. 2021 – Jun. 2025

- **Advisor:** Prof. Renshu Gu and Fangli Guan; **GPA:** 3.8/4

Selected Work

Trustworthy and Fair SkinGPT-R1 for Democratizing Dermatological Reasoning across Diverse Ethnicities

- Introduced **SkinGPT-R1**, a dermatology VLM that achieves interpretable and equitable diagnosis across diverse ethnicities by performing explicit, step-by-step, and verifiable diagnostic chain-of-thought reasoning.

CoTBox-TTT: Grounding Medical VQA with Visual Chain-of-Thought Boxes During Test-time Training

- Proposed an evidence-first test-time training scheme with all backbones frozen, updating a small set of continuous soft prompts guided by visual chain-of-thought boxes.

SkinCaRe: A Multimodal Dermatology Dataset Annotated with Medical Caption and Chain-of-Thought Reasoning

- Released **SkinCaRe**, a multimodal dataset unifying SkinCAP (medical captions) and SkinCoT (clinician-verified chains-of-thought) for transparent dermatologic reasoning.

Towards Trustworthy Dermatology MLLMs: A Benchmark and Multimodal Evaluator for Diagnostic Narratives

- Proposed **DermBench** (six clinical dimensions) and **DermEval** (reference-free evaluator) for image–text dermatology reasoning aligned with physician scoring.

Publication

**Equal Contribution*

Journals

1. **Yuhao Shen**, Zhangtianyi Chen, Yuanhao He, Yan Xu, Shuping Zhang, Liyuan Sun, Zijian Wang, Yinghao Zhu, Yuyuan Yang, Jiahe Qian, Ziwen Wang, Xinyuan Zhang, Wenbin Liu, Zongyuan Ge, Tao Lu, Siyuan Yan, Juexiao Zhou. (2025) *Trustworthy and Fair SkinGPT-R1 for Democratizing Dermatological Reasoning across Diverse Ethnicities*. **Under peer review at Nature Communications**. *arXiv: 2511.15242*
2. **Yuhao Shen**, Liyuan Sun, Yan Xu, Wenbin Liu, Shuping Zhang, Shawn Afvari, Zhongyi Han, Jiaoyan Song, Yongzhi Ji, Tao Lu, Xiaonan He, Xin Gao, Juexiao Zhou. (2025) *SkinCaRe: A Multimodal Dermatology Dataset Annotated with Medical Caption and Chain-of-Thought Reasoning*. **Under peer review at Scientific Data**. *arXiv: 2405.18004*.

3. Ce Shen, Shuiming Wang, **Yuhao Shen**, Shuai Ye. (2023) *Research and Application of 3D Point Cloud Matching Algorithm Based on Machine Vision in Real Time Detection of Bulk Materials*. **Automation Applications**.

Conferences

1. **Yuhao Shen**, Jiahe Qian, Shuping Zhang, Zhangtianyi Chen, Tao Lu, Juexiao Zhou. (2025) *Towards Trustworthy Dermatology MLLMs: A Benchmark and Multimodal Evaluator for Diagnostic Narratives*. **Under review**. *arXiv: 2511.09195*
2. Jiahe Qian*, **Yuhao Shen***, Zhangtianyi Chen, Juexiao Zhou, Peisong Wang. (2025) *CoTBox-TTT: Grounding Medical VQA with Visual Chain-of-Thought Boxes During Test-time Training*. **Under review**. *arXiv: 2511.12446*
3. **Yuhao Shen**. (2024) *Exploring Generalization Capability of U-Net Architecture through Domain Adaptation*. International Conference on Artificial Intelligence and Communication (**ICAIC 2024**).
4. **Yuhao Shen**, Xiyan Huang. (2024) *A Comparative Visualization Analysis of Neural Network Models using Grad-CAM*. CompTech: Conference Covering Computer Science and Information Technology (**CSI 2024**).

Patents

1. *Machine vision universal image browser system*. (2023SR1244870)
2. *A dock production management system based on big data*. (CN115936373A)
3. *A laser detection method for port machine equipment*. (CN117970367A)

Experience

University of Illinois Urbana-Champaign (UIUC)

Research Intern | **Supervisor: Prof. Yue Guo**

Feb. 2026 – Present

The Chinese University of Hong Kong, Shenzhen

Research Intern | **Supervisor: Prof. Juexiao Zhou**

Mar. 2025 – May. 2025

Hangzhou Huaxin Mechanical and Electrical Engineering Co., Ltd.

Algorithm Engineer Intern

Dec. 2024 – Feb. 2025

XiDian University Hangzhou Institute of Technology

Research Intern | **Supervisor: Prof. Chao Yang**

Jul. 2023 – Sept. 2023

Award

HDU Outstanding Graduate Student

Jun. 2025

HDU Campus Volunteer Star in 2024

May. 2024

Outstanding Volunteer in 19th Hangzhou Asian Games

Dec. 2023

HDU First-class Scholarship

Jun. 2023 & Jan. 2024

Zhejiang Provincial Government Scholarship

Oct. 2022

HDU Second-class Scholarship

Feb. 2022 & Oct. 2022

Leadership

President at HDU Volunteer Association

May 2023 - May 2024

- Being responsible for the whole university's volunteer organization and recruitment for many large competitions such as Hangzhou Asian Games, World Internet Conference, etc., and arranged interviews for more than 10,000 people and organized service for more than 3,000 sessions.

Volunteer Team Leader at The 19th Asian Games Hangzhou 2022

Sept. 2023 - Nov. 2023

- Serving at Information Technology Command Centre (ITCC) of the Hangzhou Asian Games, look for potential problems in metadata, synchronization, and presentation through information transportation in AIGC.