

# Hao Xu

## Curriculum Vitae

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GitHub: [Hojtxu](https://github.com/Hojtxu)

## Education

<b>Hong Kong University of Science and Technology (Guangzhou)</b> Master of Philosophy in Computer Graphics	Sep 2024 – Jun 2027
<b>Sun Yat-sen University, School of Computing</b> Bachelor of Engineering in Computer Engineering	Sep 2020 – Jun 2024

## Publications

1. **MeshCoder: LLM-Powered Structured Mesh Code Generation from Point Clouds.** *Bingquan Dai, Li Ray Luo, Qihong Tang, Jie Wang, Xinyu Lian, Hao Xu, Minghan Qin, Xudong Xu, Bo Dai, Haoqian Wang, Zhaoyang Lyu, Jiangmiao Pang.* arXiv:2508.14879, 2025. [\[Paper\]](#) [\[Project\]](#) [\[Video\]](#)

## Research Projects

<b>Visual Question Answering via Visual Programming</b> <i>Best Bachelor Thesis (A Class)</i> — <b>Aim:</b> Explored interpretable multimodal reasoning with program decomposition in VQA tasks. — <b>My Role:</b> Investigated architectures (ViLT, CLIP, BLIP), built prompts for program generation, and tested module combinations. — <b>Outcome:</b> Improved interpretability in compositional reasoning via modular analysis.	Oct 2023 – May 2024
<b>Traffic Sign Recognition (GTSRB)</b> — <b>Aim:</b> Recognition on a 43-class, 39k+ image dataset under occlusion/similarity/blur. — <b>My Role:</b> Led the team; designed an 11-layer CNN; integrated with AlexNet/VGG. — <b>Outcome:</b> 99.58% ensemble accuracy.	Jul 2023
<b>Chinese-to-English Neural Machine Translation</b> — <b>Aim:</b> Seq2seq translation on 10k sentence pairs (Chinese–English). — <b>My Role:</b> Implemented bi-LSTM encoder/decoder and beam search. — <b>Outcome:</b> Higher fluency vs. greedy decoding baseline.	Jun 2023
<b>Face Classification</b> — <b>Aim:</b> Classify 500 identities from 10k+ images using self-designed CNNs. — <b>My Role:</b> Built 3-layer CNN and ResNet variants with augmentation and BN. — <b>Outcome:</b> Up to 81.0% accuracy (baseline ResNet-18: 73%).	May 2023
<b>SYsU-lang Compiler Component</b> — <b>Aim:</b> Build compiler components for the instructional SYsU language. — <b>My Role:</b> Implemented lexer, parser, and IR generator (LLVM). — <b>Outcome:</b> SYsU successfully compiled to LLVM IR.	Apr 2023

## Experience

<b>OpenRobotLab, Shanghai AI Lab</b> <i>Research Intern</i> Embodied Intelligence: big data, simulation platforms, multimodal LLMs, embodied control.	Apr 2025 – present
<b>Human Cyber Physical Intelligence Integration Lab, Sun Yat-sen University</b> <i>Research Assistant</i> Research in computer vision, NLP, ML, and embodied AI.	Sep 2023 – Jun 2024
<b>National University of Singapore, School of Computing</b> <i>Summer School Student</i> Summer program in Visual Computing.	May 2023 – Aug 2023
<b>Tianhe-2 National Supercomputing Center</b> <i>Student Researcher</i> Supercomputer architecture, parallel computing, and AI/ML applications.	Oct 2021 – Jun 2023

## Skills

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- **Programming:** C/C++, Python, LaTeX, HTML/CSS/JavaScript
- **ML/Frameworks:** PyTorch, Hugging Face
- **Tools:** Git/GitHub, Blender, Docker, Anaconda, Jupyter, Google Colab