# Cheng ZHANG

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**Research Interests:** 3D Multimodal Large Language Models (3D MLLMs), Embodied AI, Vision-Language-Action models (VLAs), 3D point cloud analysis

## EDUCATION

**Huazhong University of Science and Technology (HUST)**          Wuhan, China

National Model Software Institute          Since September, 2024

Major: Software Engineering

- Advisor: Prof. Xiang Bai

**Central China Normal University (CCNU)**          Wuhan, China

Faculty of Artificial Intelligence in Education          June, 2024

Bachelor of Engineering in Artificial Intelligence

- Advisor: Prof. Hai Liu

## PUBLICATIONS & PATENT

- H. Liu, **C. Zhang,** et al. Orientation cues-aware facial relationship representation for head pose estimation via transformer. *IEEE Transactions on Image Processing* (TIP), 2023.
- **C. Zhang**, H. Liu, et al. Token HPE: Learning Orientation Tokens for Efficient Head Pose Estimation via Transformers. *Conference on Computer Vision and Pattern Recognition* (CVPR), 2023.
- H. Liu, **C. Zhang**, et al. TransIFC: Invariant Cues-aware Feature Concentration Learning for Efficient Fine-grained Bird Image Classification. *IEEE Transactions on Multimedia* (TMM), 2023
- D. Zhang, D. Liang, Z. Tan, X. Ye, **C. Zhang**, et al. Make Your ViT-based Multi-view 3D Detectors Faster via Token Compression. *European Conference on Computer Vision* (ECCV), 2025.
- H. Liu, **C. Zhang**, et al. Affinity Relation-aware Fine-grained Bird Image Recognition for Robot Vision Tracking via Transformers. *IEEE International Conference on Robotics and Biomimetics* (ROBIO) 2022.
- Hai. Liu, Q. Zhou, **C. Zhang,** et al. MMATrans: Muscle Movement Aware Representation Learning for Facial Expression Recognition via Transformers. *IEEE Transactions on Industrial Informatics*, (TII), 2024.
- **Zhang**. A Learning Attention Monitoring Method Based on Transformer. Patent No.: 202211596338.9.

## PROFESSIONAL ACTIVITIES

**Conference Reviewer:**

- Neural Information Processing Systems (NeurIPS), 2024
- AAAI Conference on Artificial Intelligence (AAAI), 2026
- Conference on Artificial Intelligence and Statistics (AISTATS), 2025-26

**Academic Presentation:**

- As an oral presenter at the Conference on Robotics and Biomimetics (ROBIO), 2022

## PROJECTS

**Research on Multi-dimensional and Multi-field Student Data Collection Technology**

- Participated in the Ministry of Science and Technology's key project "Large-Scale Cross-Stage Student Growth Tracking Research" under the Special Fund for Social Governance and Smart Society Technology Support.
- Responsible for the development and application of a speech emotion recognition model, achieving automatic annotation with over 80% accuracy.
- Assisted in the installation of video collection equipment and contributed to the technical documentation.

**Research on Teachers' Non-Speech Behavior Intelligent Perception and Quantitative Computation in Class Based on Multi-sensor Information**

Supervisor: Prof. Hai Liu, National Engineering Research Center for E-Learning

- Contributed to the writing of the National Natural Science Foundation project proposal: "Research on Teachers' Non-Speech Behavior Intelligent Perception and Quantitative Computation Based on Multi-sensor Information in Classroom Environment" (47,300 words).
- Designed a novel Deformable Transformer-based model for head posture estimation of teachers.

## HONORS & AWARDS

- HUST, Master's Degree Academic First-Class Scholarship, 2024
- **National Scholarship, 2023**
- CCNU, Jingui Scholarship, 2022
- CCNU, Shuren Scholarship, 2021
- National Mathematical Modeling Competition (National Second Prize), 2022
- Huazhong Cup College Students Mathematical Modeling Challenge (Second Prize), 2022
- National Mathematical Modeling Competition (Provincial Second Prize), 2021

## SKILLS

Programming: Python, JavaScript, HTML
Misc: Pytorch, LaTeX, Markdown
OS: Linux, Windows
Language: IELTS: 7.5 (Listening-8.0; Speaking-6.0; **Reading-8.5**; Writing-6.5), GRE 324 (Verbal 155; Quantitative 169)