HAOWEN WANG

Tsinghua University — wang-hw21@mails.tsinghua.edu.cn — GitHub — (+86) 13760808389

EDUCATION

Tsinghua University, School of Software Aug. 2021 — Jun. 2025 (Expected)
Bachelor of Engineering in Software Engineering

- **Overall GPA: 3.89**/4.00 (**Ranking: 10**/80) — **Major GPA 3.89**/4.00 (**Ranking: 10**/80)
- **Core Courses**: Computer Organization Principle(A+), Computer Networks(A+), Students Research Training(A), Principles of Assembly and Compilation(A), Introduction to Complex Analysis(A+), Practice of Programming(A), Practical Training For Programming(A), Modern Operating System(A), Probability and Statistics(A), Programming Methodology(A), Introduction to Algorithms(A-), Data Structure(A-), Software Engineering(A-), Discrete Mathematics(1)&(2) (A-&A-)

PUBLICATION

Hypergraph-Guided Disentangled Spectrum Transformer Networks for Near-Infrared Facial Expression Recognition
*Bingjun Luo, **Haowen Wang**, Jinpeng Wang, Junjie Zhu, Xibin Zhao, Yue Gao. AAAI 2024*

Transolver: A Fast Transformer Solver for PDEs on General Geometries
*Haixu Wu, Huakun Luo, **Haowen Wang**, Jianmin Wang, Mingsheng Long. ICML 2024*

RESEARCH EXPERIENCE

Machine Learning Group (THUML), Tsinghua University Sep. 2023 - Current
*Advisor: **Mingsheng Long** , School of Software, Tsinghua University*

- Solving partial differential equations (PDEs) is of immense importance in extensive real-world applications, such as weather forecasting
- We designed a physics-informed model to solve partial differential equations (PDEs), learning intrinsic physical states for better performance
- I participated in writing the paper, conducting the experiments, and visualizing the showcases

Near-Infrared Facial Expression Recognition Aug. 2022 - Aug. 2023
*Advisor: **Xibin Zhao, Yue Gao** , School of Software, Tsinghua University*

- Near-infrared can be an effective and essential complement to visible facial expression recognition in low-lighting conditions
- We proposed a hypergraph-guided disentangled spectrum transformer network for near-infrared facial expression recognition
- We introduced a Self-Attention Orthogonal Decomposition mechanism that disentangles the expression information and spectrum information from the input image
- We constructed a large NIR-VIS Facial Expression dataset that includes 360 subjects to better validate the efficiency of our model
- I actively contributed to the design of the model structure, presented the showcases and participated in conducting the experiments

HONORS AND REWARDS

Geru Zheng Scholarships(top 5%) 2023
Tsinghua University
Software Innovation Competition(4th place) 2023
Tsinghua University
Dongfang Electric Scholarships(top 10%) 2022
Tsinghua University

SKILLS

- **Programming Skills:** Python, C/C++, Javascript, PyTorch, TensorFlow, LaTex, OpenCV
- **Language Skills:**
  Chinese: native
  English: Fluent, TOEFL(iBT) score 108 (R30/L29/S24/W25)