Haoliang Zhang

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Education

University of Oklahoma · PhD in Electrical & Computer Engineering — Norman, OK
ADVISOR: Samuel Cheng — Jan 2020 - Jun 2026
Topics: geometry processing, computer graphics & vision, geometric learning

California State University · MS in Electrical & Computer Engineering — Fresno, CA
ADVISOR: Woonki Na — Jan 2017 - May 2018

Liren College of Yanshan University · BS in Electrical Engineering — QinHuangDao, China
Sep 2011 - May 2015

Joint Training: Shaanxi University of Science & Technology — Xi'an, China
Control Theory & Engineering — Sep 2015- Sep 2016

Work Experience

University of Oklahoma — Norman, OK
GRADUATE RESEARCHER — Jan 2020 - ongoing
Research at the intersection of 3D geometry and machine learning. Applications to computer graphics and computer vision. Member of Samuel Cheng's AI Lab.

Vince Technology — Xi'an, China
SENIOR ALGORITHM ENGINEER — Sep 2019 - Jan 2020
Enhanced object detail using infrared radiation data, incorporating the reverse Monte Carlo method. Pioneered the integration of the Geographic Information System (GIS) with infrared technologies to simulate flight patterns in helicopters and unmanned aerial vehicles (UAVs).

Xian Brain Intelligent Technology — Xi'an, China
ALGORITHM ENGINEER — Oct 2018 - Jun 2019
Devised an innovative algorithm that harmonizes electroencephalogram (EEG) data with other physiological indicators. Constructed deep recurrent neural networks capable of identifying sleep stages from single-channel EEG recordings, catering to non-expert users. Launched a state-of-the-art model for EEG signal categorization, resulting in a 3% enhancement in accuracy and optimized company-specific algorithms.

Publication

[1] **Zhang, Haoliang**, Samuel Cheng, Christian El Amm, and Jonghoon Kim. "Efficient Pooling Operator for 3D Morphable Models". In: *IEEE Transactions on Visualization and Computer Graphics* (2023), pp. 1–9. DOI: 10.1109/TVCG.2023.3255820.

[2] **Zhang, Haoliang**, Xintong Li, Jonghoon Kim, Samuel Cheng, and Christian El Amm. "Neural QSLIM for Mesh Autoencoders". In: *Artificial Neural Networks and Machine Learning –ICANN 2025*. Springer Nature Switzerland, 2026, pp. 51–65.

[3] **Zhang, Haoliang**, Woonki Na, and Jonghoon Kim. "State-of-charge estimation of the lithium-ion battery using neural network based on an improved thevenin circuit model". In: *2018 IEEE Transportation Electrification Conference and Expo (ITEC)*. IEEE. 2018, pp. 342–346.

[4] **Zhang, Haoliang**, Wei Tang, Woonki Na, Pyeong-Yeon Lee, and Jonghoon Kim. "Implementation of generative adversarial network-CLS combined with bidirectional long short-term memory for lithium-ion battery state prediction". In: *Journal of Energy Storage* 31 (2020), p. 101489. ISSN: 2352-152X.

AWARDS & HONORS

2018 Edison Energy Fund CSU, FRESNO
2023 Paper Award (student paper) University of Oklahoma
2024 William H. Barkow Scholarship University of Oklahoma
2024 Clyde L. Farrar Endowed Scholarship University of Oklahoma
2025 Invited to present at GMP 2025

Teaching

- **Teaching Assistant** ECE 2523-001 Probability, Statistics and Random Processes, OU, 2024, 2025.
- **Guest Lecture** ECE 4973 Computer Vision OU, SP, 2024
- **Guest Lecture** ECE 5973 Artificial Neural Networks and Applications OU, SP, 2024
- **Teaching Assistant** ECE 3223-995 Microprocessor System Design OU, SP, 2021
- **Teaching Assistant** ECE 4613/CS 4613 Computer Architecture OU, FA, 2021/2020

Professional Service

Reviewer for Journals

• IEEE Transactions on Circuits and Systems for Video Technology (2023-2025)

Reviewer for Conferences

• IEEE / CVF Computer Vision and Pattern Recognition Conference (2024)
• The Association for the Advancement of Artificial Intelligence (2025)
• International Conference on Artificial Neural Networks (2025)
• Pattern Recognition and Computer Vision (2025)

SKILLs

Programming Python, MATLAB, C++ LaTeX
Technologies Pytorch, Keras, Eigen, CMake, Blender
Statistic/ML Non-linear control, Deep Learning, Statistical Analysis, Differential Geometry.