
Personal details and date of CV

Surname: Zhang

First Names: Yao

Date of CV: 01/04/2026

Degrees

11/2024 – present, Doctor of Science (Technology). Majoring in Computer Science, Aalto University, Espoo, Finland. Funded by Finnish Doctoral Program in Artificial Intelligence (AI-DOC).

About 30/10/2024, Master of Science. Majoring in Communication Engineering, Aalto University, Espoo, Finland. Contact: registry@aalto.fi.

01/07/2022, Bachelor of Science. Majoring in Communication Engineering, Tongji University, Shanghai, China. Contact: dxwg@tongji.edu.cn.

Current employment

Begin from 11/2024, Doctor researcher in Aalto University, Wearable Systems Lab, funded by Finnish Doctoral Program in Artificial Intelligence (AI-DOC). Employer: Professor. Yu Xiao. Place: Espoo, Finland.

Previous work experience

Part-time research assistant in Aalto University, Wearable Systems Lab. Employer: Professor: Yu Xiao, 15/04/2024 – 30/06/2024.

Career breaks

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Research funding and grants

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Research output

[1] Y. Zhang, Z. Liu, Y. He, T. Ploetz, Y. Xiao. "Fine-grained Motion Retrieval via Joint-Angle Motion Images and Token-Patch Late Interaction." arXiv preprint arXiv:2603.09930, 2026. Under Review.

[2] Y. Zhang, Z. Liu, Y. Xiao. "LingoMotion: An Interpretable and Unambiguous Symbolic Representation for Human Motion." PerCom 2026 Work-in-Progress. arXiv:2603.13578.

[3] Y. Zhang, S. L. Clayton, Y. Xiao. "Efficient Online Continual Learning in Sensor-Based Human Activity Recognition." arXiv preprint arXiv:2511.05566, 2025.

[4] Z. Liu*, Y. Zhang* (equal contribution), Y. He, H. Paasio, C. Li, G. Semjonova, Y. Xiao. "Exploring Human-AI Collaboration in E-Textile Design: A Case Study on Flex

Sensor Placement for Shoulder Motion Detection." arXiv preprint arXiv:2603.13575, 2026. Under Review.

[5] Z. Liu, Y. Zhang, Y. Xiao. "NanoVDR: Distilling a 2B Vision-Language Retriever into a 70M Text-Only Encoder for Visual Document Retrieval." arXiv preprint arXiv:2603.12824, 2026. Under Review.

[6] Z. Liu, Z. Hu, Y. Zhang, Y. Xiao. "Look in the Middle: Structural Anchor Pruning for Scalable Visual RAG Indexing." arXiv preprint arXiv:2601.20107, 2026. Under Review.

Research supervision and leadership experience

Supervised M.Sc. student Alina Schepers. Publication: A. Schepers, Y. Zhang, Y. Xiao. "Comparative Analysis of Knitting Patterns for Wearable Resistive Strain Sensors in Joint Motion Measurements." Proceedings of the ACM International Symposium on Wearable Computers (ISWC), pp. 38-44, 2025.

Teaching merits

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Awards and honours

Rich experience in VEX Robotics Competition, responsible for structure and programming, and won following awards: 1. VEX competition of Shanghai Jiao Tong University, Second Prize. 2. 2019 3rd Silk Road Robot Innovation Competition-VEX Robot (Second Prize). 3. 2019 10th Asian Youth Robotics Championship (VEX U Engineering Challenge University Group) The Excellence Award (First Prize). 4. Qualified to participate in the VEX Robotics World Competition (the world's largest robot competition) through the above competitions, but the competition was cancelled due to COVID-19.

Innovation project "Homing!: Cloud-enabled logistics robot cluster based on 5G" (National Prize for Undergraduate Student Training Program for Innovation and Entrepreneurship in China). Shanghai University Student Maker Competition ("Enterprise Award").

Other key academic merits, such as

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Scientific and societal impact

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Other

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