

Dongquan Zhang

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Education

University of Science and Technology of China (USTC) Sep 2021 – Jun 2024

Master of Computer Science and Technology, Department of Computer Science and Technology

- Major: Computer Applications Technology
- GPA: 3.71 / 4.3
- Relevant Courses: Applied Mathematics for Computer Science (89/100), Design and Analysis of Algorithms (87/100), Signal and Information Processing (93/100), Social Computing (95/100)

University of Science and Technology of China (USTC) Sep 2017 – Jun 2021

Bachelor of Computer Science and Technology, Department of Computer Science and Technology

- Major: Computer Science and Technology
- GPA: 3.53 / 4.3
- Relevant Courses: Program Design I (87/100), C Language Programming II (88/100), Data Structures (95/100), Software Engineering (92/100)

Research Experiences

Research Assistant in Precise Pervasive Lab, USTC Mar 2022 – Jun 2024

Advisor: Prof. Xiaohui Cai

Human Activity Recognition

- Developed a full-body **pressure data visualization** system using VTK (Visualization Toolkit).
- Developed a **pose classification** system based on full-body pressure data. [\[PDF\]](#)
- Generated 3D-pose labels using linear triangulation and non-linear optimization.
- Modelled human poses by utilizing Inverse Kinematics and Forward Kinematics.
- Designed and implemented a **pose estimation** method based on full-body pressure data.

Research Assistant in Precise Pervasive Lab, USTC Sep 2021 – Feb 2022

Advisor: Prof. Xiaohui Cai

Health Monitoring

- Developed a prototype blood microcirculation monitoring system using spectral color sensor & Arduino.
- Recorded spectral variation when body parts are under pressure.

Research Assistant in Precise Pervasive Lab, USTC Sep 2020 – Jun 2021

Advisor: Prof. Xiaohui Cai

Medical Image Analysis

- Developed a cardiac muscle fiber visualization system based on DT-MRI images.
- Visualized cardiac muscle fiber using numerical computation approaches and hierarchical clustering respectively.

Publications

- [1] Z. Liang, M. Niu, F. Xie, **D. Zhang**, L. Dai and X. Cai, "A Single-Ply and Knit-Only Textile Sensing Matrix for Mapping Body Surface Pressure," *IEEE Sensors Journal*, 2024. [\[PDF\]](#)
- [2] **D. Zhang**, Z. Liang, Y. Wu, F. Xie, Z. Wu, G. Xu and X. Cai, "Learn to Infer Human Poses using a Full-body Pressure Sensing Garment," *IEEE Sensors Journal*, Revise and resubmit.
- [3] Z. Liang, **D. Zhang**, G. Xu, F. Xie, H. Guo and X. Cai, "Smart garment: A long-term feasible, whole-body textile pressure sensing system," *IEEE Sensors Journal*, 2023. [\[PDF\]](#)

Honor & Awards

- First Class Academic Scholarship for Master Student (2023)
- First Class Academic Scholarship for Master Student (2022)
- First Class Academic Scholarship for Master Student (2021)
- 2020 Scholarship for Outstanding Students (Bronze Award)

Standard Tests

TOFEL IBT TEST: 105/120 Reading: 29 Listening: 30 Speaking: 21 Writing: 25

Skills

Programming Skills: C/C++, Python, Verilog

Software: Arduino IDE, VTK (Visualization Toolkit)

References

Prof. Xiaohui Cai

- **Precise Pervasive Lab, USTC**
- caixiaohui@ustc.edu.cn