QING LUO

Email: luoqing0110@gmail.com

EDUCATION

Shanghai Jiao Tong University — **Shanghai, China**
M.S. in Electronic Information (**Outstanding Graduate)** — Sep 2020 – Mar 2023
Research Interests: Mobile Sensing, Wearable Computing

University of Science and Technology of China — **Hefei, China**
B.S. in Electronic Information Engineering — Aug 2016 – Jun 2020

PUBLICATIONS

* indicates equal contribution

[UbiComp '24] MagDot: Drift-free, Wearable Joint Angle Tracking at Low Cost
Dongyao Chen, **Qing Luo**, Xiaomeng Chen, Xinbing Wang, Chenghu Zhou
ACM International Conference on Ubiquitous Computing, 2024

[MobiCom '22] Automatic calibration of magnetic tracking
Mingke Wang*, **Qing Luo***, Yasha Iravantchi, Xiaomeng Chen, et al.
ACM International Conference on Mobile Computing and Networking, 2022

[MobiCom '21] MagX: wearable, untethered hands tracking with passive magnets
Dongyao Chen, Mingke Wang, Chenxi He, **Qing Luo**, et al.
ACM International Conference on Mobile Computing and Networking, 2021

ACADEMIC EXPERIENCE

Drift-free, Wearable Joint Angle Tracking at Low Cost — Jun 2022 – Aug 2023
Master's thesis and research project, accepted by UbiComp '24 — Shanghai, China

- Developed a novel sensing platform incorporating magnetic tracking and advanced calibration techniques to facilitate mutual perception between the two platforms
- Proposed a joint tracking algorithm utilizing dual sensing platforms for the precise angle measurement of human hinge and ball-and-socket joints, effectively mitigating the influence of skin deformation
- Performed comprehensive assessment experiments on the human body using the motion capture system to evaluate the joint tracking algorithm, yielding a RMSE of approximately three degrees

Automatic Calibration of Magnetic Tracking — Aug 2021 – Mar 2022
Research project, accepted by MobiCom '22 — Shanghai, China

- Designed the hardware system prototype for the automatic calibration algorithm, incorporating solenoid magnetic coils and their driving circuit
- Developed and conducted quantitative evaluation experiments to assess comprehensively the performance of the automatic calibration algorithm
- Conducted user studies in free-form writing and hand-writing recognition to evaluate the real-world performance of the automatic calibration algorithm

Wearable, Untethered Hands Tracking with Passive Magnets Nov 2020 – Mar 2021
Research project, accepted by MobiCom '21 Shanghai, China

- Designed the layout of the tracking platform and the circuit of the magnetic sensor array to capture magnetic data generated by passive magnets
- Developed 3D-printed instruments to aid in the performance evaluation experiment of the tracking algorithm

AWARDS AND HONORS

- Outstanding Graduate of Shanghai Jiao Tong University Mar 2023
- China COSCO Shipping Second-class Scholarship (Shanghai Jiao Tong University) Dec 2022
- First-class Graduate Academic Scholarship (Shanghai Jiao Tong University) Dec 2020
- First-class Prize in the 2018 RoboGame Competition (University of Science and Technology of China) Oct 2018

TEACHING ASSISTANT SERVICE

Graduate Course in Shanghai Jiao Tong University

- Principles and Design of Sensing Systems Sep 2022 – Jan 2023

Undergraduate Course in Shanghai Jiao Tong University

- Programming Practice Jun 2022 – Jul 2022
- Principles in Programming Sep 2021 – Jan 2022
- Signals and Systems Feb 2021 – Jun 2021

RELEVANT SKILLS

- Skilled in MATLAB, Altium Designer, SolidWorks, Signal Generator, Oscilloscope
- Proficient in fundamental programming skills, capable of programming in C/C++ and Python

REFERENCES

- Dongyao Chen chendy@sjtu.edu.cn
  Associate Professor of Computer Science at Shanghai Jiao Tong University
- Xiaoying Gan ganxiaoying@sjtu.edu.cn
  Professor of Electronic Engineering at Shanghai Jiao Tong University