Qi-Long Liu

qilong-kirov.liu@connect.polyu.hk

Google Scholar ORCID GitHub Homepage

Education

The Hong Kong Polytechnic University — Sep 2021 – Feb 2024
Master of Philosophy, Laboratory for Artificial Intelligence in Design (AiDLab) — *Hong Kong, China*
Supervised by Prof. Kit-lun Yick, Prof. Joanne Yip and Dr. Yue Sun

Shenzhen University — Sep 2017 – Jul 2021
Bachelor of Engineering, School of Biomedical Engineering — *Shenzhen, China*
Supervised by Dr. Yongjin Zhou

Awards

The Hong Kong Polytechnic University Research Studentship — 2021 – 2023
The Hong Kong Polytechnic University

Star of Double Innovations (Group Award) — 2021
Third Prize, Shenzhen University

National College Students Biomedical Engineering Innovation Design Competition — 2019
Third Prize, The Teaching Steering Committee of Biomedical Engineering in Colleges and Universities of the Ministry of Education

National College Students Electronic Design Competition in Guangdong Province — 2019
Third Prize, The Organizing Committee of the Guangdong Province Division of the National Undergraduate Electronic Design Competition

Publications

Under Review

L.-Y. Zhang, Z.-Q. Ma, K.-L. Yick, P.-L. Li, J. Yip, S.-P. Ng, and **Q.-L. Liu**, "Prediction of dynamic plantar pressure from insole intervention for diabetic patients based on patch-based multilayer perceptron with localization embedding," *IEEE Access (Under Review)*, 2024.

Journal

Q.-L. Liu, K.-L. Yick, Y. Sun, and J. Yip, "Ultra-dense motion capture: an exploratory full-automatic approach for dense tracking of breast motion in 4d," *PLOS ONE*, vol. 19, no. 2, Y. Lu, Ed., e0299040, Feb. 2024, ISSN: 1932-6203. DOI: 10.1371/journal.pone.0299040. [Online]. Available: http://dx.doi.org/10.1371/journal.pone.0299040.

L.-Y. Zhang, **Q.-L. Liu**, K.-L. Yick, J. Yip, and S.-P. Ng, "Analysis of diabetic foot deformation and plantar pressure distribution of women at different walking speeds," *International Journal of Environmental Research and Public Health*, vol. 20, no. 4, p. 3688, Feb. 2023. DOI: 10.3390/ijerph20043688. [Online]. Available: https://doi.org/10.3390/ijerph20043688.

Q.-Q. Shi, P.-L. Li, K.-L. Yick, J. Jiao, and **Q.-L. Liu**, "Influence of contoured insoles with different materials on kinematics and kinetics changes in diabetic elderly during gait," *International Journal of Environmental Research and Public Health*, vol. 19, no. 19, p. 12 502, Sep. 2022. DOI: 10.3390/ijerph191912502. [Online]. Available: https://doi.org/10.3390/ijerph191912502.

Conference

Q.-L. Liu, K.-L. Yick, K.-C. Chan, S.-T. Wong, and S.-P. Ng, "Sports bra pressure: effect on core body temperature and comfort sensation," in *Ergonomics In Design*, AHFE International, 2022. DOI: 10.54941/ahfe1001991. [Online]. Available: https://doi.org/10.54941/ahfe1001991.

Thesis

Q.-L. Liu, "Ultra-dense motion capture algorithm for breast biomechanical modelling in design of sports bras," MPhil thesis, The Hong Kong Polytechnic University, 2024.

Work & research experience

The Hong Kong Polytechnic University — Sep 2023 – Present
Research Assistant (full-time) — *Hong Kong, China*
Supervised by Prof. Kit-lun Yick
3D/4D scene reconstruction/understanding, dense motion tracking, and human pose analysis

Shenzhen Base of The Hong Kong Polytechnic University — Dec 2020 – Jun 2021
Student Assistant (part-time) for Prof. Kit-lun Yick — *Shenzhen, Guangdong, China*
Supervised by Prof. Kit-lun Yick
3D/4D scanning data cleansing, labelling, and processing

Shenzhen Zhishixinyun Educational Technology Ltd. — Nov 2019 – Mar 2020
Python tutorial lecturer (internship) — *Shenzhen, Guangdong, China*

Open-source projects *(selected)*

PaperThread — 2023
Visualize papers' relations as threads — *Link*

FEcluster — 2023
Distribute FE simulation tasks across multiple computers via SSH — *Link*

mesh4d — 2023
Toolkit for 4D (3D + T) data visualisation, operation, and dynamic estimation — *Link*

qilong-liu.vercel.app — 2023
Minimalist personal blog site based on Next.js and Tailwind — *Link*

pedarProbe — 2022
Data analysis framework for pedar plantar pressure sensor — *Link*

Beamer-LaTeX-Themes — 2022
Customized beamer templates for PolyU, SZU, and more — *Link*

Skill set

Languages
English (fluent); Mandarin (native); Cantonese (native)

Programming
Python (seasoned); JavaScript (intermediate); Bash shell scripting (intermediate); C/C++ (basic); Matlab (intermediate)

Others
LaTeX (seasoned); TikZ (intermediate); Git (seasoned); Docker (basic); Next.js (seasoned); Sphinx (seasoned)