

Qi-Long Liu

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Google Scholar  ORCID  GitHub  Homepage 

RESEARCH INTERESTS

3D computer vision; 4D scene reconstruction; Dense motion tracking; Spectral learning w/ deep functional maps network (FMNet); Human-computer interaction; AI for healthcare.

EDUCATION

The Hong Kong Polytechnic University (QS #57) <i>Master of Philosophy, Laboratory for Artificial Intelligence in Design (AiDLab)</i> <i>Supervised by Prof. Kit-lun Yick</i> <i>Co-supervised by Prof. Joanne Yip and Dr. Yue Sun</i>	Sep 2021 – Feb 2024 Hong Kong, China
Shenzhen University (ARWU #151–200) <i>Bachelor of Engineering, School of Biomedical Engineering (ARWU #24)</i> <i>Supervised by Dr. Yongjin Zhou</i>	Sep 2017 – Jul 2021 Shenzhen, China

AWARDS

The Hong Kong Polytechnic University Research Studentship <i>The Hong Kong Polytechnic University</i>	2021 – 2023
Star of Double Innovations (Group Award) <i>Third Prize, Shenzhen University</i>	2021
National College Students Biomedical Engineering Innovation Design Competition <i>Third Prize</i>	2019
National College Students Electronic Design Competition <i>Third Prize in Guangdong Province</i>	2019

PUBLICATIONS

Journal

Qi-Long Liu, Kit-Lun Yick, Yue Sun, and Joanne Yip. Ultra-dense motion capture: an exploratory full-automatic approach for dense tracking of breast motion in 4d. *PLoS One*, 19(2):e0299040, 2024 (*JCR Q1, IF 2.9*)

Li-Ying Zhang, Ze-Qi Ma, Kit-Lun Yick, Pui-Ling Li, Joanne Yip, Sun-Pui Ng, and **Qi-Long Liu**. Prediction of dynamic plantar pressure from insole intervention for diabetic patients based on patch-based multilayer perceptron with localization embedding. *IEEE Access*, page 1–1, 2024 (*JCR Q2, IF 3.4*)

Jia-Zhen Chen, Yue Sun, **Qi-Long Liu**, Joanne Yip, and Kit lun Yick. Construction of multi-component finite element model to predict biomechanical behaviour of breasts during running and quantification of the stiffness impact of internal structure. *Biomechanics and Modeling in Mechanobiology*, 2024 (*JCR Q2, IF 3.0*)

Xi Chen, **Qi-Long Liu**, Lei Dong, Hu Tang, Tian-Fu Wang, and Si-Ping Chen. Construction of experimental teaching system of biomedical engineering for demand of industry. 2020 (*PKU Core, IF 1.7*)

Conference

Qi-Long Liu, Kit-Lun Yick, Kam-Ching Chan, Sin-Tung Wong, and Sun-Pui Ng. Sports bra pressure: effect on core body temperature and comfort sensation. In *Ergonomics In Design*. AHFE International, 2022

Thesis

Qi-Long 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 <i>Research Assistant (full-time)</i> <i>Supervised by Prof. Kit-lun Yick</i> <i>3D/4D scene reconstruction/understanding, dense motion tracking, and human pose analysis</i>	Sep 2023 – Present <i>Hong Kong, China</i>
Shenzhen Base of The Hong Kong Polytechnic University <i>Student Assistant (part-time) for Prof. Kit-lun Yick</i> <i>Supervised by Prof. Kit-lun Yick</i> <i>3D/4D scanning data cleansing, labelling, and processing</i>	Dec 2020 – Jun 2021 <i>Shenzhen, Guangdong, China</i>
Shenzhen Zhishixinyun Educational Technology Ltd. <i>Cofounder and Python tutorial lecturer</i> <i>A campus startup that aims at providing short-term STEM and arts tutorials for college students</i>	Nov 2019 – Mar 2020 <i>Shenzhen, Guangdong, China</i>

OPEN-SOURCE PROJECTS (SELECTED)

mesh4d <i>Toolkit for 4D (3D + T) data visualisation, operation, and dynamic estimation</i>	2023 (Link)
PaperThread <i>Visualize papers' relations as threads</i>	2023 (Link)
FEcluster <i>Distribute FE simulation tasks across multiple computers via SSH</i>	2023 (Link)
qilong-liu.vercel.app <i>Minimalist personal blog site based on Next.js and Tailwind</i>	2023 (Link)
pedarProbe <i>Data analysis framework for pedar plantar pressure sensor</i>	2022 (Link)
Beamer-LaTeX-Themes <i>Customized beamer templates for PolyU, SZU, and more</i>	2022 (Link)

SKILL SET

Languages

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

Programming

PyTorch & Python (seasoned); JavaScript & Node.js & CSS & HTML (seasoned); LLM w/ OpenAI API (seasoned); Bash shell scripting (intermediate); C/C++ (basic); Matlab (intermediate)

Others

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