

Qi-Long Liu

qilong-kirov.liu@connect.polyu.hk

Google Scholar  ORCID  GitHub  Homepage 

RESEARCH INTERESTS

3D computer vision; 4D scene reconstruction; Dense motion tracking; Statistical human modeling; Human-computer interaction; AI for design.

EDUCATION

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| The Hong Kong Polytechnic University (QS #57) <i>Master of Philosophy, School of Fashion and Textiles and Laboratory for Artificial Intelligence in Design (AiDLab)</i> <i>Supervised by Prof. Kit-lun Yick and 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

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| 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*, 12:100355–100365, 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)

Li-Ying Zhang, **Qi-Long Liu**, Kit-Lun Yick, Joanne Yip, and Sun-Pui Ng. Analysis of diabetic foot deformation and plantar pressure distribution of women at different walking speeds. *International Journal of Environmental Research and Public Health*, 20(4):3688, 2023

Qiu-Qiong Shi, Pui-Ling Li, Kit-Lun Yick, Jiao Jiao, and **Qi-Long 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*, 19(19):12502, 2022

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

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| 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 Hong Kong, China |
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| 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 Shenzhen, Guangdong, China |
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| 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 Shenzhen, Guangdong, China |
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OPEN-SOURCE PROJECTS (SELECTED)

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| 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) |
| 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); Bash shell scripting (intermediate); C/C++ (basic); Matlab (intermediate)

Others. LaTeX (seasoned); TikZ (intermediate); I am also a self-estimated good cook.