

Curriculum Vitae
Ho Man Colman Leung

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Research Interests	My research focuses on physiological sensing for health and interaction applications. Guided by physical principles and natural phenomena, I carefully design and refine sensors to capture high-quality signals, alongside computational pipelines to extract meaningful information. Through hardware–software co-design, I integrate novel sensors, ubiquitous computing, and aesthetics into robust and reliable systems.		
Education	PhD in Computer Science		
	<i>Columbia University</i> United States		2022 - Present
	<i>Dartmouth College</i> United States		2020 - 2022
	Advisor: Prof. Xia ZHOU		
	MPhil in Computer Science and Engineering		2015 - 2018
	<i>The Chinese University of Hong Kong</i> Hong Kong		
	Supervisors: Prof. Chi-Wing FU and Prof. Pheng-Ann HENG		
	Thesis: Cross-Device Authentication via Motion Co-analysis with a Smartwatch in a Multi-user Multi-device Environment		
Publications	BSc in Computer Science		2009 - 2012
	<i>The Chinese University of Hong Kong</i> Hong Kong		
	Clinical evaluation of a polarization-based optical noninvasive glucose sensing system		
	<u>Ho Man Colman LEUNG</u> , Chengyue Gong, Luke Geiser, Emily E Fivekiller, Nam Bui, Tam Vu, Temiloluwa Prioleau, Gregory P Forlenza, Qiang Liu, Xia Zhou Scientific Reports 15.1 (2025): 8877.		
	My Pillow Knows My Sleep: Sleep Monitoring with Computational Fabrics in the Pillowcasey		
	Qijia Shao, Junxiao Chen, Ho Man Colman Leung, Meiqi Zhao, Ruoyu Xu, Jiting Liu, Lisa Maria DiSalvo García, Xiaofan Jiang, Marie-Pierre St-Onge, Xia Zhou Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 9.3 (2025): 1-26.		
	Fabric Sensing of Intrinsic Hand Muscle Activity		
	Katelyn Lee, Runsheng Wang, Ava Chen, Lauren Winterbottom, <u>Ho Man Colman Leung</u> , Lisa Maria DiSalvo, Iris Xu, Jingxi Xu, Dawn M Nilsen, Joel Stein, Xia Zhou, Matei Ciocarlie 2025 International Conference On Rehabilitation Robotics (ICORR). IEEE, 2025.		
	Joey: supporting kangaroo mother care with computational fabrics		
	Qijia Shao, Jiting Liu, Emily Bejerano, Ho Man Colman Leung, Jingping Nie, Xiaofan Jiang, Xia Zhou Proceedings of the 22nd Annual International Conference on Mobile Systems, Applications and Services. 2024.		
	Noninvasive glucose sensing in vivo		
	<u>Ho Man Colman LEUNG</u> , Gregory P Forlenza, Temiloluwa O Prioleau, Xia Zhou Sensors 23.16 (2023): 7057.		
	A Portable Solution to Noninvasive Glucose Sensing with Light		
	<u>Ho Man Colman Leung</u> , Tianxing Li, Temiloluwa Prioleau, Tam Vu, Gregory Forlenza, Xia Zhou		

Adjunct Proceedings of the 2022 ACM International Joint Conference on Pervasive and Ubiquitous Computing and the 2022 ACM International Symposium on Wearable Computers. 2022. Presented in UBI-COMP 2022.

TwistIn: Tangible Authentication of Smart Devices via Motion Co-analysis with a Smartwatch

Ho Man Colman Leung, Chi-Wing Fu, and Pheng-Ann Heng

Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 2.2 (2018): 72. Presented in UBICOMP 2018.

Stereoscopic Three-Dimensional Visualization for Immersive and Intuitive Anatomy Learning

Kup-Sze Choi, Shu-Ting Chan, Ho Man Colman Leung, and Yim-Pan Chui

IEEE International Conference on Technology for Education (T4E 2016).

Teaching

CSEE4119 Computer Networks - Teaching Assistant | Columbia University Spring 2024 & Spring 2025

CS60 Computer Networks - Teaching Assistant | Dartmouth College Spring 2021

Final Year Project Tutor | CUHK Fall 2016 - Spring 2017

CSCI3260 Principle of Computer Graphics - Teaching Assistant | CUHK Spring 2016

- Awarded the Certificate of Merit

CSCI1130 Introduction to Computing using Java - Teaching Assistant | CUHK Fall 2015

Work Experience

Research Associate 2018 - 2020

Department of Computer Science and Engineering, CUHK | Hong Kong

- Developed a robust multi-camera, multi-object 6DoF real-time tracking system for medical simulators, with performance boosted through CUDA parallelization and pipelined execution.

Software Engineer 2012 - 2015

Dracaena Life Technologies Co., Ltd. | Hong Kong

- Designed an anatomy visualization tool with stereoscopic 3D and Leap Motion mid-air gestures for immersive learning; deployed at PolyU School of Nursing with positive user study results.
- Developed a Traditional Chinese Acupuncture Simulation System by extending an Interventional Sonography Trainer, adding rotary encoders and Arduino-based sensors to capture needle rotation.
- Implemented stereoscopic rendering and head tracking 3D simulation using Kinect.

Skills

Software Development

Programming: C, C++, C#, Objective-C, Java, Python, MATLAB, GLSL, and more

Libraries: OpenGL, OpenCV, Boost, CUDA, TensorFlow, PyTorch

Platforms: iOS, Android, Windows, Arduino, Unity, Web

Hardware Fabrication

Design Tools: Autodesk Fusion, Inkscape

Techniques: 3D Printing, Soldering, PCB Design, Embroidery

Designing

Adobe Creative Suite (Photoshop, Illustrator, InDesign, Premiere Pro, After Effects)

Spoken Languages

Cantonese, English, Mandarin, Spanish (Duolingo beginner)

Interests

Dragon Boat, Badminton, Piano, Cello, Graphic Design