

# CHAOFAN WANG

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## EDUCATION

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<b>Ph.D. Candidate of Human-Computer Interaction</b> The University of Melbourne	February 2019 - Present
<b>Master of Information Technology (with Distinction)</b> The University of Melbourne	February 2017 - December 2018
<b>Bachelor of Computer Science</b> Hangzhou Dianzi University	September 2012 - June 2016

## INTERESTS AND SKILLS

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<b>Research Interests</b>	Human-Computer Interaction, Ubiquitous Computing, Medical Informatics
<b>Program Languages</b>	Python, Java, C & C++, SQL
<b>Technical Skills</b>	Wearable Sensing (IMU, sEMG), Environmental Sensing (RGB camera, Thermal camera, Depth camera), Image Process (OpenCV), Android Development
<b>Analysis Skills</b>	Statistical Analysis, Machine Learning & Deep Learning (scikit-learn, PyTorch), Data Visualization
<b>Languages</b>	Chinese (native), English (fluent, IELTS - 7.0)

## WORK EXPERIENCE

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<b>Murdoch Children's Research Institute (MCRI)</b> <i>Research Associate</i>	February 2020 - Present <i>Melbourne, Australia</i>
· Worked on Using Wearable Sensor to Detect Episodes of Hand Hygiene (Field Study).	
<b>The University of Melbourne</b> <i>Head Tutor - COMP90018 (Mobile Computing Systems Programming)</i>	July 2019 - Present <i>Melbourne, Australia</i>
· Developed and delivered tutorials to 350 students for Android application development.	
· Redesigned teaching materials used in the tutorials.	
<b>The University of Melbourne</b> <i>Tutor - COMP10003 (Media Computation)</i>	Feb 2022 - Present <i>Melbourne, Australia</i>
· Delivered tutorials to 60 students for web application development.	

## PROJECTS

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<b>Using Computer Vision to Measure Quality of Hand Hygiene</b>	October 2019 - Present
· Detect the hand surface coverage with antiseptic products after hand hygiene by environmental sensors, e.g., thermal camera and RGB camera;	
· Apply computer vision algorithms to measure the corresponding hand hygiene quality in medical settings.	
<b>Using Wearable Sensor to Detect Episodes of Hand Hygiene</b>	February 2019 - Present
· Detect episodes of hand hygiene with machine learning algorithms by wearable sensors, e.g., IMU and sEMG;	
· Examine the feasibility of monitoring the frequency and thoroughness of hand hygiene practices in medical settings.	

## Using Environment and Calendar Data to Predict Emergency Admissions February 2019 - Present

- Design machine learning algorithms to predict emergency department admissions through environment data, calendar variables, and history admission records;
- Optimize the personnel flow in hospitals' emergency departments and determine the relevance of environment and calendar data towards emergency admissions.

## RESEARCH PUBLICATIONS

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1. Kangning Yang, Benjamin Tag, Yue Gu, **Chaofan Wang**, Tilman Dingler, Greg Wadley, and Jorge Goncalves. Mobile Emotion Recognition via Multiple Physiological Signals using Convolution-augmented Transformer. *The Annual ACM International Conference on Multimedia Retrieval (ICMR)*, 2022 (Accepted, CORE - B)
2. **Chaofan Wang**, Weiwei Jiang, Kangning Yang, Zhanna Sarsenbayeva, Benjamin Tag, Tilman Dingler, Jorge Goncalves, and Vassilis Kostakos. A System for Computational Assessment of Hand Hygiene Techniques. *Journal of Medical Systems*, 46(6):36, May 2022 (Impact factor: 4.46)
3. Weiwei Jiang, Difeng Yu, **Chaofan Wang**, Zhanna Sarsenbayeva, Niels van Berkel, Jorge Goncalves, and Vassilis Kostakos. Near-Infrared Imaging for Information Embedding and Extraction with Layered Structures. *ACM Trans. Graph.*, April 2022 (Impact factor: 5.41)
4. **Chaofan Wang**, Weiwei Jiang, Kangning Yang, Difeng Yu, Joshua Newn, Zhanna Sarsenbayeva, Jorge Goncalves, and Vassilis Kostakos. Electronic Monitoring Systems for Hand Hygiene: Systematic Review of Technology. *Journal of Medical Internet Research*, 23(11):e27880, Nov 2021 (Impact factor: 5.43)
5. Kangning Yang, **Chaofan Wang**, Yue Gu, Zhanna Sarsenbayeva, Benjamin Tag, Tilman Dingler, Greg Wadley, and Jorge Goncalves. Behavioral and Physiological Signals-Based Deep Multimodal Approach for Mobile Emotion Recognition. *IEEE Transactions on Affective Computing*, (01):1–1, July 2021 (Impact factor: 8.01)
6. Weiwei Jiang, Zhanna Sarsenbayeva, Niels van Berkel, **Chaofan Wang**, Difeng Yu, Jing Wei, Jorge Goncalves, and Vassilis Kostakos. User Trust in Assisted Decision-Making Using Miniaturized Near-Infrared Spectroscopy. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, New York, NY, USA, 2021. Association for Computing Machinery (CORE - A\*)
7. Difeng Yu, Weiwei Jiang, **Chaofan Wang**, Tilman Dingler, Eduardo Velloso, and Jorge Goncalves. ShadowDancXR: Body Gesture Digitization for Low-Cost Extended Reality (XR) Headsets. In *Companion Proceedings of the 2020 Conference on Interactive Surfaces and Spaces*, page 79–80, New York, NY, USA, 2020. Association for Computing Machinery (ISS EA)
8. Kangning Yang, **Chaofan Wang**, Zhanna Sarsenbayeva, Benjamin Tag, Tilman Dingler, Greg Wadley, and Jorge Goncalves. Benchmarking commercial emotion detection systems using realistic distortions of facial image datasets. *The Visual Computer*, pages 1–20, 2020 (Impact factor: 2.60)
9. **Chaofan Wang**, Zhanna Sarsenbayeva, Xiuge Chen, Tilman Dingler, Jorge Goncalves, and Vassilis Kostakos. Accurate Measurement of Handwash Quality Using Sensor Armbands: Instrument Validation Study. *JMIR Mhealth Uhealth*, 8(3):e17001, Mar 2020 (Impact factor: 4.77)
10. **Chaofan Wang**, Zhanna Sarsenbayeva, Chu Luo, Jorge Goncalves, and Vassilis Kostakos. Improving Wearable Sensor Data Quality Using Context Markers. In *International Joint Conference on Pervasive and Ubiquitous Computing*, UbiComp Adjunct, 2019 (UbiComp EA)
11. Qiushi Zhou, Joshua Newn, Benjamin Tag, Hao-Ping Lee, **Chaofan Wang**, and Eduardo Velloso. Ubiquitous Smart Eyewear Interactions using Implicit Sensing and Unobtrusive Information Output. In *International Joint Conference on Pervasive and Ubiquitous Computing*, UbiComp Adjunct, 2019 (UbiComp EA)

## ACADEMIC SERVICE

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Reviewer for IMWUT, Journal of Medical Internet Research, JMIR mHealth and uHealth, JMIR Medical Informatics, BMJ Innovations, American Journal of Infection Control, Public Health in Practice, etc.

## AWARDS AND SCHOLARSHIPS

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**Research Training Program Scholarship**

The University of Melbourne

2019 - 2022

**Dean's Honours List**

The University of Melbourne

2018

**Commonwealth Supported Place**

The University of Melbourne

2018 - 2019

**Third Prize Scholarships**

Hangzhou Dianzi University

2012 - 2015