

FENG FENG, PHD

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Research Associate in HCI, School of Computer Science

B157 Science Park, Länsikatu 15, Joensuu, Finland 80110

RESEARCH INTERESTS

Human-computer interaction (HCI), Human-robot interaction (HRI)

Multimodal, multi-sensory perception and interaction

Embodied cognition, sensorimotor system for motor training

Dynamic affordance for tangible interaction

EDUCATION

Queen Mary University of London (London, UK)

January 2015 - Nov 2019

PhD in Electronic Engineering, Human-Computer Interaction

Cognitive Science Research Group, Department of Electronic Engineering and Computer Science

(Russell group University)

Hunan University (Changsha, CN)

September 2011 - June 2014

MA in Interaction Design

School of Design

(The leading design institute in China in Industrial Design and Interaction Design)

Shandong University (Jinan, CN)

September 2007 - June 2011

Bachelor of Engineering

School of Mechanical Engineering

(Double-First Class University, Rank A)

WORK EXPERIENCE

Interactive technology Lab, University of Eastern Finland

Dec 2020 - now

Postdoc researcher

- I'm collaborating with surgeons working on understanding multi-sensory capabilities, especially haptic interactions, in surgical environment, as well as developing training platforms and mechanism to motivate self-training, skill improving and maintenance.

BIG (Bristol Interaction Group) Lab, University of Bristol, Bristol

August 2019 - now

Research Associate

- I'm working on developing shape-change technologies to capture and enrich multi-sensory experience and emotional values. The ultimate goal is to provide design solutions for increasing technology inclusiveness.

Demand logic limited, London

April 2019 - July 2019

Consultancy

- I worked on the visualisation of power consumption data with Demand Logic, to help both consumers and providers identify peak shifting (shifts in peak electricity consumption) during a day. I also worked on new business models for demand-side response. The ultimate goal of this project was to help achieve zero-carbon emissions by 2050.

- As a teaching assistant I prepared teaching materials, led lab sessions, provided guidance and advice to students on assignments and group projects, as well as marking coursework.

RESEARCH AREA

My research stands across the fields of Human-computer interaction (HCI) and Human-robot interaction (HRI). It builds on theories of embodied cognition and multi-sensory perception, and often involves the transfer or extension of knowledge from primary research in the cognitive sciences. I am passionate about applying these ideas to improve the accessibility of technology through human-centred approach, and with a particular focus on multi-sensory experience and affective interaction. My work understands interaction experience through lab experiments as well as studies in the wild, and evaluates interaction at personal, inter-personal and crowd levels.

Relevant Fields: Human-computer interaction; Human-robot interaction; Multi-sensory perception; Embodied cognition; Interactive affordance; Affective computing; Tangible interaction; Motor training and accessible technology.

PUBLICATIONS

Journals

[J1] Exploring crossmodal perceptual enhancement and integration in a sequence-reproducing task with cognitive priming

Feng Feng, Puhong Li, Tony Stockman

DOI: 10.1007/s12193-020-00326-y

[J2] Concurrent crossmodal feedback assist target-searching: displaying distance information through visual, auditory and haptic modalities

Feng Feng, Daniel Bennett, Oussama Metatla, Tony Stockman

(In Pipeline for International journal of human computer studies by Oct 2021)

Conferences

[C1] **Feng, F.**, Bennett, D., Fan, Z., & Metatla, O. (2021, May). It's Touching: Understanding Touch-Affect Association in Shape-Change with Kinematic Features. Under review for CHI 2022.

[C2] Lin, A., Scheller, M., **Feng, F.**, Proulx, M. J., & Metatla, O. (2021, May). Feeling Colours: Crossmodal Correspondences Between Tangible 3D Objects, Colours and Emotions. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems

[C3] Bennett, D., Dix, A., Eslambolchilar, P., **Feng, F.**, Froese, T., Kostakos, V., ... & van Berkel, N. (2021, May). Emergent Interaction: Complexity, Dynamics, and Enaction in HCI. In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems

[C4] **Feng, F.**, & Stockman, T. (2019, April). Augmented Visuotactile Feedback Support Sensorimotor Synchronization Skill for Rehabilitation. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (p. LBW2120). ACM.

doi>10.1145/3290607.3312812

[C5] **Feng, F.**, & Stockman, T. (2017, November). An investigation of dynamic crossmodal instantiation in TUIs. In Proceedings of the 19th ACM International Conference on Multimodal Interaction (pp.

82-90). ACM.

doi>10.1145/3136755.3136782

[C6]**Feng, F.**, Stockman, T., Bryan-Kinns, N., & Al-Thani, D. (2015, September). An investigation into the comprehension of map information presented in audio. In Proceedings of the XVI International Conference on Human Computer Interaction (p. 29). ACM.

doi>10.1145/2829875.2829896

ACADEMIC ENGAGEMENT

Workshop hosting:

CHI 2021 workshop on Complexity Methods for HCI

CHI 2022 workshop on Compatible Collaborative Approaches in Medical Research (biding)

Reviewer for:

CHI 2020, DIS 2020 in 2020

Ubicomp/ISWC 2019, Worldhaptics 2019, ICAD 2019 in 2019

Eurohaptics 2018 in 2018

Conference:

AC for CSCW 2021 poster session

Co-chaired (Paper chair) the ICAD 2019

RESEARCH NETWORKS

Bristol Interaction Group (BIG), University of Bristol, UK

Main collaborators: Dr Oussama Metatla (EPSRC research fellow), Dr Anne Roudaut (Reader in HCI)

Project: Dynamic Shape-change mechanism for affective computing

Bristol Robotics Lab, Bristol, UK

Main collaborator: the Softlab

Project: Shape-change technologies for HCI and HRI

Robotix group, QMUL, UK

Main collaborator: Dr Kaspar Altheofer, Abu Bakar Dawood

Project: Soft sensing for microsurgical training

College of Science and Engineering, Hamad bin Khalifa University, Qatar

Main collaborator: Dr Dena Ahmed S. Al Thani

Project: Cultural influence on multi-sensory perception and affective associations

School of Mechanical Engineering, Shandong University, China

Main collaborator: Prof Fan Zhijun

Project 1: Lab study on multi-sensory perception of shape-change interfaces

Project 2: The effect of multi-sensory feedback on fine motor skill training with healthy people (Lab study) and with stroke patients (Longitudinal study)

PROFESSIONAL MEMBERSHIP

Member of the Association for Computing Machinery (ACM) since 2017

Member of the Institution of Engineering and Technology (IET) 2015-2019

TEACHING EXPERIENCE

Co-supervision

1 MSc student - 2019

1 undergraduate student for final-year project - 2019

Teaching assistant

ECS 612U Interaction design - 2017/18, 2018/19

ECS 740P Database system - 2017/18

ECS 639U Web programming - 2017/18

ECS 511U Creating interactive objects - 2017/18

ECS 722U Internet-of-things technology - 2016/17

ECS 522U/ECS 744P Graphical user interfaces - 2015/16

PROGRAMMING AND DESIGN SKILLS

Programming skills

Programming language: C++ (Good), Java (Good), Python (Good), Matlab (Good), Processing (Good), Javascript (Intermediate), HTML (Good), SQL (Basic);

Hardware platform: Arduino (Good), Teensy (Good), Raspberry Pi (Intermediate), Bela (Basic)

Design skills

2D: Photoshop (Good), Illustrator (Good), Indesign (Intermediate)

3D: Fusion 360 (Good), Solidworks/ProEngineer (Intermediate), Rhinoceros (Intermediate)

PUBLIC ENGAGEMENT

First Lego League (FLL) Robotics competition

Co-organiser, robot design judge and referee for the London East, First Lego League (FLL) Robotics design competition. We hosted this event for the purpose of encouraging and engaging young talents to get more involved with STEM subjects.

The event website: <https://firstlegoleague.theiet.org>.

The event photos: https://www.flickr.com/photos/eecs_qmul/albums/72157703849093212

TeenTech Event

Representative of QMUL for the TeenTech Event: This event aims to present variety of science, technology and engineering in a friendly and warm approach to teenagers.

The event website: <https://www.teentech.com/teentech-events/>

DESIGN EXPERIENCE / INTERNSHIPS

2013: Co-founded and designed campus publication, the “The voice of YueLu”, with MBA colleagues in business school, HNU

2012: Designed visual identification (VI) system for the Museum of Academies in China

2012: Field study and co-design for IoT smart kitchen, sponsored by HNU-Olin Joint laboratory

2011: Nokia(Beijing)-HNU (Hunan University research institute) design innovation workshop

LANGUAGES

English: Fluent (Working language)

Chinese: Native

PERSONAL TRAITS

I have an educational backgrounds that spans both engineering (B.Eng.), design (MA), computer science and cognitive science (PhD). As a well-trained scientifically grounded researcher, I conduct research studies in a critical and rigorous manner, while as a designer, I love to explore design spaces and to create interactive prototypes in a different mindset.

I'm highly motivated and eager to work in multi-disciplinary research fields with people who come from diverse backgrounds. I enjoy and deeply value collaboration because I believe "the whole is greater than the sum of its parts". As such I have always made great efforts to develop research partnerships not only within my field and home institution, but across other disciplines and around the world - working with chemists, roboticists, and psychologists in the UK, China and Qatar.

I love art and history. I was trained as an artist and continue to create (and re-create!) artworks in my spare-time. I'm also an amateur photographer, using a camera to log the images of the world represented in my brain.

Google scholar

https://scholar.google.co.uk/citations?user=IHMO_zOAAAAJ&hl=en&authuser=1

Personal website

<https://fengxiwu.org>

Linkedin

<https://www.linkedin.com/in/feng-feng-308054146/>

Github

<https://github.com/turtle2007>

Twitter

<https://twitter.com/Feng58486062>