Jianhui YAN

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🔗 https://yimkf.github.io/

EDUCATION

Research Intern   06/2024 – 09/2024
Human Computer Interaction Lab at Saarland University   Saarbrücken, Germany
Research advisor: Prof. Jürgen Steimle 🔗

Exchange Student   01/2024 – 05/2024
Polytech Nantes   Nantes, France

M.S. Electronic Information Engineering   09/2022 – present
School of Electronic and Information Engineering, South China University of Technology   Guangzhou, China
Research advisor: Prof. Lin Shu 🔗

B.S. Information Engineering   09/2018 – 06/2022
School of Electronic and Information Engineering, South China University of Technology   Guangzhou, China
GPA: 3.71/4.0

RESEARCH INTERESTS

Human Computer Interaction (HCI), Wearable Haptic System, Virtual/Augmented Reality (VR/AR), Force Feedback

PUBLICATION

Under Review
EMS Hand Prop: Leveraging the Loss of SoA Caused by EMS to Make Hands Serve Better as Virtual Objects
Jianhui Yan, Jiesi Zhang, Haoqiang Hua, Wenxuan Wu, Hongnan Lin, Qiwei Xiong, Jianxiu Jin, Lin Shu.
Submitted to the **Internation Journal of Human-Computer Studies** 🔗

Preparing for submission
A Mobile and Wearable Haptic Device (Confidential)
Arata Jingu, **Jianhui Yan**, Maja Fehlberg, Roland Bennewitz, Jürgen Steimle.
Working with **Arata Jingu** 🔗 under **Prof. Jürgen Steimle's** 🔗 supervision as a co-author. The paper is **confidential** as we are working on it currently.

RESEARCH EXPERIENCE

[1] EMS Hand Prop: Leveraging the Loss of SoA Caused by EMS to Make Hands Serve Better as Virtual Objects   08/2023 – 01/2024

- **Novel concept:** Leveraged the loss of SoA caused by EMS to make the stimulated hand serve better as a virtual object
- **Finger Actuation via Wearable Devices:** Developed an EMS-based system to actuate users' hands, enabling 8 distinct gesture poses
- **Interactive System Integration**: Developed an interaction system combining EMS actuation and data-glove-based gesture recognition, facilitating immersive user participation in gestural object retrieval tasks and interactive scenarios.

[2] CHI 2025 : A Mobile and Wearable Haptic Device (Rejected and preparing for resubmission)   06/2024 – 09/2024

- **VR/MR Software Development:** Developed a built-in app for Oculus Quest 3 within a mixed reality (MR) environment, including several application scenarios.

- **Prototyping:** Established the communication between Quest 3, haptic devices, and mobile computers, enabling a fully mobile system.
- **Research Contribution**: Contributed to brainstorming and ideation for the paper, exploring multiple application possibilities.

[3] Construction of immersive and interactive methodology based on physiological indicators to subjectively and objectively assess comfort and performances in work offices 03/2024 – 05/2024
- **Data Analysis**: Processed and synchronized the physiological data, and analyzed the data using neurokit2 🔗 .
- **Building research environment**: Recreated a real-life room in Unity and setting up the environment for user study

[4] Smart Magic Mirror: Personalized Display and Voice Assistant Integration 03/2021 – 07/2021
- **Voice Assistant**: Developed and implemented a voice assistant leveraging the wukong-robot 🔗 project.
- **Prototyping**: Designed and built the hardware, integrating it into a functional smart mirror system.

AWARDS & SCHOLARSHIP

Second Prize of Guangdong Province of National Undergraduate Mathematical Contest in Modeling 09/2020

Second Prize of Guangdong Undergraduate Electronic Design Competition 11/2020

National Encouragement scholarship 2020

The Second Prize Scholarship of South China University of Technology 2019

"Hongping Evergreen Fund" Student Science and Technology Innovation Third-class Scholarship (2 items) 2020

SKILLS & LANGUAGE

MR Interaction Implementation
Developing built-in Mixed Reality (MR) interaction application for Quest 3

Hardware & Software Skills
- Software: Unity3D(C#), Python, Git, Matlab, Neural Network, Data Analysis
- Hardware: Electrical Muscle Stimulation, Arduino, Wearable Systems, PlatformlO

Language:
IELTS: 7 ; French:A1

TEACHING EXPERIENCE & SERVICE

EuroHaptics 2024 07/2024
Student Volunteer Lille, France

Digital system design 09/2023 – 12/2023
Teaching Assistant South China University of Technology

Digital logic circuit 03/2023 – 06/2023
Teaching Assistant South China University of Technology