Yu Jiang

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Education

Carnegie Mellon University Aug. 2017 - May. 2021

B.A. with Honors in Global Studies, Minor in Computer Science, Minor in Intelligent Environment (GPA: 3.76/4.00)

Relevant Courses

Reasoning with Data	Creative Kinetic Systems	Fundamentals of Programming & Computer Science
Introduction to Probability Theory	Foldable Robots	Principles of Imperative Computation
Matrix & Linear Transformation	Human Robot Interaction	Principles of Functional Programming
Concepts of Mathematics	Introduction to Computer Systems	Parallel and Sequential Data Structures and Algorithms

Honors and Awards

Carnegie Mellon University Summer Research Undergraduate Fellowship ($3,500) 2020
Dietrich College Dean's List with High Honors Spring 2018, Fall 2019
Dietrich College Dean's List Fall 2017, Fall 2019, Fall 2020

Selected Research Experience

Interactive and Programmable Metamaterial User Interfaces Mar. 2021 - present

Project Lead and Research Assistant at CMU Human Computer Interaction Institute Interactive Structures Lab (advised by Prof. Alexandra Ion), Pittsburgh

- Engineer metamaterial cells' internal microstructures and iteratively 3d-print prototypes
- Design different cells for input, signal transmission, computation, and output functionalities
- Propose and prototype interactive metamaterial user interface applications

Facilitating Self-Monitored Rehabilitation With Biofeedback and Virtual Reality Mar. 2021 - present

Project Lead and Research Assistant at Tsinghua University HCI Group(advised by Prof. Yuntao Wang), Beijing

- Identify needs and challenges of remote motor rehabilitation and design a self-monitored system through collaborative design with therapists
- Investigate the effectiveness of different visual presentations and haptic feedback methods (vibrotactile and pneumatic) in facilitating self-monitored rehabilitation
- Implement the system with accessible tracking and haptic wearables and carry out in-the-wild evaluation with the patients

Modeling How User-Avatar Movement Inconsistency Affects Body Ownership in VR Mar. - Sept. 2021

Research Assistant at Tsinghua University HCI Group (advised by Prof. Yuntao Wang), Beijing

- Investigated the effect of applying angular offset onto the avatar in VR on the sense of body ownership on left upper limb poses
- Built a statistical model to quantify the effect of offset to the probability of users noticing the user-avatar inconsistency and helped implemented three input techniques based on the model

Accessible, Efficient, Interactive Text Reader for Visually Impaired People July. 2020 - Sept. 2021

Research Assistant at Tsinghua University HCI Group (advised by Prof. Yuanchun Shi), Beijing

- Investigated inefficiencies in current reading apps and identified needs for academic reading designed for visually impaired people
- Designed and developed new Android reading apps and accompanying hardware (e.g. 3d printed phone cases) to assist reading
- Evaluated the effectiveness of developed apps feedback from the users to further improve the designs

Low-Cost Surface Acoustic Wave Devices for Classifying Biomaterials Sept. 2019 - present

Project Lead and Research Assistant at CMU Human Computer Interaction Institute Dev Lab (advised by Prof. Scott Hudson), Pittsburgh

- Characterize, print and test new sensor boards using direct-write printed and PCB-based sensors
- Collect and visualize continuous signals using NanoVNA, GNU radio and Python
- Develop and train machine learning pipeline to identify biomaterial signals (hard and soft foods) in real time
- Paper submitted to IMWUT'21 August round

Skills

Programming: Python, C, C#, Java, Git, Android Development, Unity, R
Hardware and Fabrication: Arduino, AutoCAD, 3d Printing, Laser Cutting, Conductive Ink-jet Printing, Sensors, Pneumatics
Design: Fusion 360, Final Cut Pro

Publications

[1] Zhipeng Li, **Yu Jiang**, Yihao Zhu, Ruijia Chen, Ruolin Wang, Yuntao Wang, Yukang Yan, and Yuanchun Shi. Modeling How User-Avatar Movement Inconsistency Affects the Sense of Body Ownership in Virtual Reality. **(Submitted to IMWUT 2021 November)**

[2] Zhichun Li, **Yu Jiang**, Xiaochen Liu, Yuhang Zhao, Chun Yu, Yuanchun Shi. Enhancing Revisitation in Touchscreen Reading for Visually Impaired People with Semantic Navigation Design. **(Revise and Resubmit by CHI'22)**

[3] Xinyi Fu, Cheng Xue, Qiuyi Yin, **Yu Jiang**, Ye Li, Yichen Cai, and Weilin Sun. 2021. Gesture-based Fear Recognition Using Nonperformance Dataset from VR Horror Games. In 2021 9th International Conference on Affective Computing and Intelligent Interaction (ACII). 1–8. doi: 10.1109/ACII52823.2021.9597450. **(ACII'21)**

Employment Experience

Merck Holdings Limited, Buy & Pay Services, Shanghai July. - Aug. 2019

Data Analyst Intern

- Analyzed payment patterns for invoices received by Merck globally
- Developed a model for predicting payment arrival date and improved payment on-time rate by 5%
- Led and participated in collaborations with the Operation Department in Manila, Philippine

CyberMiles Foundation Limited, Shanghai July. - Aug. 2018

Technical Department Intern

- Wrote and tested instructions on accessing the company's blockchain node
- Created and managed technical set-up instruction contents for CyberMiles' Youtube channel
- Developed a user interface website for a blockchain Fear of Missing Out game for the company