ZHENG DONG

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SUMMARY

Computer science student (expected MS Spring 2024) with an interest in Programming Language (PL) research, especially applied to Human-Computer Interaction (HCI). Advanced coursework, internship, and research experiences in HCI, robotics, and Neuroscience.

EDUCATION

MEng, Computer Science Graduating Jun 2024
University of Bristol, Bristol

BEng, Computer Science Graduated Jun 2023
Univeristy of Bristol 3.3/4 GPA

RESEARCH PUBLICATIONS

- **Zheng Dong**, Peiyang Jiang, Dandan Zhang 'Health-Metaverse: Large AI Models and Extended Reality-Based Ecosystem for Personalized Home-Centric Healthcare', *Under submission*, 2023
- Dandan Zhang, Ziniu Wu, Jin Zheng, **Zheng Dong**, Jialin Lin, 'HuBotVerse: Towards Internet of Human and Intelligent Robotic Things with a Mixed Reality-Aided Cloud-Based Framework' *IEEE Robotics and Automation Magazine*, under review, 2023

RESEARCH EXPERIENCE

Health-care digital twins using generative AI and virtual reality Summer 2023
PI: professor Dandan Zhang, University of Bristol

- **Avatar Creation and Interaction**: Constructed lifelike avatars with dynamic expressions; utilized advanced computer graphics tools such as Blender and Maya, employing cutting-edge animation techniques
- **Speech Services Integration**: Generated natural language processing capabilities in digital twins; incorporated the ChatGPT API, devising an innovative memory mechanism for contextually-aware responses
- **Synergistic Fusion of Avatars, Speech, and LLMs**: Streamlined integration of avatars, speech services, and advanced Language Models (LLMs); demonstrated the synergistic augmentation of healthcare digital twins for personalized and dynamic interactions

Enhancing climate service applying the human-computer interaction theory Summer 2023
PI: professor Jacob Rigby, University of Bristol

- **User-Driven Interface Design**: Optimized the interface of the East Africa Hazard Watch system by applying human-computer interaction theory; tailored the design to user preferences through a developed persona report
- **Literature Review**: Synthesized a comprehensive literature review on Human-Computer Interaction (HCI) for climate service applications; informed methodological choices and theoretical frameworks from relevant studies
- **Heuristic Evaluation**: Assessed the usability and user experience of the climate service website with a heuristic evaluation report; analyzed interface elements and interactions to pinpoint areas for improvement, delivering reports to ICPAC
- **Multidisciplinary Collaboration**: Fostered collaboration with a multidisciplinary team; effectively integrated expertise from varied fields for a holistic approach to the project

PROJECTS

Back to Nature Game Dec 2022 - May 2023
Supervisior: Tilo Burghardt, University of Bristol

- **Team Coordination**: Coordinated team processes, including organizing meetings and encouraging brainstorming sessions; fostered effective communication to ensure project progress
- **Gameplay Implementation**: Integrated interactive elements aligning with the game's ecological narrative; utilized Maya, Blender, Unity, and Affinity design pipelines to implement engaging gameplay models
- **Custom Shaders and Visual Effects**: Developed and Enhanced realism and visual appeal through custom shaders and visual effects in 3D scenes; augmented the immersive experience for players within the game environment

Smart Home Robotics iCloud Monitoring Website Jul 2022-Sep 2022

PI: professor Dandan Zhang, University of Bristol

- **Smart Home and Smart Dog Robots**: Constructed two robots, a smart home robot and a smart dog robot, achieving innovative solutions for smart living environments
- **Application-Based Monitoring System**: Utilized Arduino, Django, and Raspberry Pi technologies to create a seamless user interface; facilitated real-time monitoring and control through a user-friendly mobile application
- **Learned** and implemented Django framework for web development, acquiring a new skill set and applying it in the context of a cloud-based monitoring system

INTERNSHIP

AI Law, which is a start-up company mainly in charge of developing Sass software to improve the communication efficiency in laws among lawyers and their customers Winter 2022

Marketing Operations Assistant

- Collecting and searching for information about the layers and laws online
- Labeling the feedback from the users about their satisfaction with the system to build up the machine learning models for supporting the company future decision-making

ACTIVITIES

UCESCO (a non-profit volunteer organization), Africa Volunteer Sep 2022

Helping local people out of poor living situations, focusing on agriculture, education, sustainable development, and female business

- Providing assistance to local communities in need, Collaborated with a team to organize and execute projects focused on improving living conditions and promoting sustainable development
- Solving the job hunting problem by contacting the local enterprises and United National organizations for slums people (arranging the interviews and training courses)

Study Abroad: Kyoto and Tokyo Univerity, Japan Feb 2019

Study Visit Tour Project in Japan organized by Kyoto University, student

- Academic communication about collecting the data about the Satellites monitoring changes in ocean currents to apply to the weather service application
- Explored the intersection of Japanese technology and culture through visits to leading technology companies and cultural landmarks.

TECHNICAL SKILLS

Data Analysis and Statistics: GRE: 334 (Verbal: 164, Quantitative: 170, Analytical Writing: 4)

Programming: Python, Java, R languages, Web development (HTML, CSS, JavaScript), MATLAB, Go, C++, C