

Songming PING

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EDUCATIONAL BACKGROUND

Xi'an Jiaotong - Liverpool University

Sept.2020-Present

BSc Information and Computing Science

- Modules include: Linear Algebra, Multivariable Calculus, Artificial Intelligence, Algorithmic Foundations and Problem Solving, Java programming, Discrete Mathematics and Statistics, Data Structures, Operating Systems Concepts, Computer Network, Computer Graphic, Game design, Robotics and AI Applications
- GPA: 3.9; Rank: 1/277
- Awards: 2022/23 University Academic Achievement Award; 2023/24 University Academic Excellence Award

PROFESSIONAL EXPERIENCE

Nanjing Zhongxing Telecom Equipment Co., Ltd

Jun.2022-Aug.2022

Software Development and Testing Engineer

- Participated in OMCI related development and learned about GPON/EPON applications
- Designed the function test cases of optical access equipment and completed the corresponding tests
- Completed basic hardware equipment and automation test and basic automation equipment development
- Participated in the smart home technology project, understood and practiced the advanced AI control system

Hiramatsu Trading Co., LTD Japan

Jan.2022-Feb.2022

Software Development Engineer & Data Analyst

- Collaborated with the full-stack engineers to develop an APP for clients and designed web pages for company
- Used JavaScript and HTML to configure the user interface and front-end frameworks, allowing users to check their portfolio balance, review their wish list companies, and set up price alerts
- Coded various trading orders for users to select and incorporated risk management features to ensure prudent trading practices
- Established the users' database based on MySQL and Redis to set up delivery tests and helped manage and retrieve data queries until the end of my service
- Implemented machine learning models to preprocess and simulate data and extracted users' features, facilitating the company's advertising strategies to target clients

EXTRA-CURRICULAR ACTIVITIES AND RESEARCH

HCI+Adaptive | XJTLU X-CHI Lab

Mar.2023-Oct.2023

Subject: Adaptive Voice(chi, major accept and revision)

Advisor: Hai-Ning Liang

- Developed a first-person perspective VR driving environment
- Employed linear integration optimisation algorithms to analyse and summarise driver preferences
- Completed the controlling of the actuation in unity
- Proposed adaptive driving system to decrease the drivers' reaction time by 14.3% and improve the accuracy by 10.7% compared to the baseline

Reinforcement Learning+VR | XJTLU X-CHI Lab

Mar.2023-Sept.2023

Subject: Adaptive Audience (chi play ongoing)

Advisor: Hai-Ning Liang

- Aimed to enhance players' performance and increase their game experience at the same time
- Utilised VRFan-Network to detect participants' real-time emotions for arousal and Valence
- Investigated how users' emotion effect their performance and extract their preference for the presentation style of NPC audience in the first study
- Applied on-policy reinforcement learning to adapt the action, sound, size of NPC audience at different state

Deep Learning+Smart Building | Municipal Key Lab for Intelligent Virtual Engineering May 2023-Oct.2023

Subject: Digital Twin-based Smart Building Management (paper being submitted)

Advisor: Yue Yong and Xiaohui Zhu

- Used point cloud reconstruction, depth camera and other methods to recover the room model in the building
- Used Ue to realise user interface ui and model and data visualisation to realise interaction with users
- Used temperature and humidity sensors to obtain real-time indoor detailed data
- Used the Internet of things technology to achieve the transmission of sensor data
- Used Python to build the back-end server, and MySQL to store data in the cloud database
- Used Pytorch Deep Learning to complete the personalised algorithm of thermal comfort preference, and neural network to achieve thermal comfort prediction

Collaborate Learning+VR | XJTU X-CHI Lab, XJTU Language Center May 2022-Jan.2023

Subject: The Impact of VR Interactive Scenarios on Language Learning (paper being submitted)

Advisor: Hai-Ning Liang and Airong Wang

- Built unity scenes, including classrooms, apartments, conference rooms and other scenes, and completed VR related interaction settings
- Applied Python and Javascript to build network communication and deployed servers to complete multi-device access so as to form a multi-person interaction scene
- Packaged and deployed the software to quest2 for half-semester in-class experiments
- Used Python semantic recognition and neural network to analyze the experimental data and train the model, drew research conclusions and made reports

Pass through+VR | XJTU X-CHI Lab Sept.2023-Present

Subject: Developing a Pass-through Benchmark for VR HMDs (ongoing)

Advisor: Hai-Ning Liang

- Evaluated the feasibility and limitations of Pass-through technology in VR, with a special focus on its performance in everyday life scenarios
- Evaluated the current advantages and disadvantages of pass-through technology in VR from the aspects of contrast, resolution, distortion, color accuracy, exposure, noise, dynamic range, depth perception, dynamic blur, delay, etc., and gave further application development and improvement suggestions

SKILLS AND INTERESTS

- **Language:** Native Chinese speaker and fluent in English
- **IT:** Proficient in Microsoft office, Python, PHP, C++, JavaScript, SQL, Bash, JAVA
- **Frameworks:** Scikit, NLTK, SpaCy, TensorFlow, Keras, Django, Flask, NodeJS, LAMP
- **Tools:** Unity, Kubernetes, Docker, GIT, PostgreSQL, MySQL, SQLite
- **Platforms:** Linux, Web, Windows, Arduino, Raspberry, AWS, GCP, Alibaba Cloud, IBM Cloud
- **Interests:** Piano(Grade10), Debate, Game Development, Go, Speech