XIJIA WEI

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EDUCATION

M.Sc Artificial Intelligence — Nov. 2018
University of Edinburgh — Edinburgh, UK

- Courses: Machine Learning and Pattern Recognition; Big Data Analysis; Natural Language Processing; Computer Vision; Human Interaction Design;
- Research: End-to-End Machine Learning Positioning System based on Smartphone Multi-sensory; Applied Machine Learning; Mobile Systems; Multimodal Machine Learning

B.Eng (Honours) Electronics and Electrical Engineering — Jul. 2017
University of Edinburgh — Edinburgh, UK

- Courses: Wearable Device; Signal Processing; Analogue/Digital Circuit Design; Microelectronics; Power System Design; Bioinformatics
- Research: Indoor Positioning based on Smartphone Sensors using Machine Learning
- Awards: International Student Scholarship (£2000)

SKILLS

- Machine Learning & Pattern Recognition
- Mobile Sensing System Design
- Multimodal Machine Learning
- Cyber Physical System Design
- Data Analyse and Processing
- Algorithms Design
- C/JAVA/Python/Matlab/VHDL Programming
- Electronics/Electrical System Design
- Analogue/Signal Circuit Design
- Human Computer Interaction
- English/Chinese
- Violin

PUBLICATIONS

Journal Paper — Nov. 2021
Sensors

- "Sensor-fusion for Smartphone Location Tracking using Hybrid Multimodal Deep Neural Networks" Xijia Wei, Zhiqiang Wei and Valentin Radu, Sensors

Conference Paper — Nov. 2021
International Conference on Indoor Positioning and Indoor Navigation (IPIN) 2021 — Barcelona, Spain

- "MM-Loc: Cross-sensor Indoor Smartphone Location Tracking using Multimodal Deep Neural Networks" Xijia Wei, Zhiqiang Wei and Valentin Radu, IPIN2021

Conference Paper — Oct. 2019
International Conference on Indoor Positioning and Indoor Navigation (IPIN) 2019 — Pisa, Italy

- "Calibrating Recurrent Neural Networks on Smartphone Inertial Sensors for Location Tracking" Xijia Wei, Valentin Radu, IPIN2019

Conference Paper — Sep. 2018
UK Mobile, Wearable and Ubiquitous Systems Research Symposium (MobiUK) 2018 — Cambridge, UK

- "End-to-End Machine Learning for Smartphone-based Indoor Localisation and Tracking using Recurrent Neural Networks" Xijia Wei, Valentin Radu, MobiUK2018

TALKS

Machine Learning Session (online presentation) — Nov. 2021
International Conference on Indoor Positioning and Indoor Navigation (IPIN) 2021 — Barcelona, Spain

- "An end-to-end multimodal deep neural network based smartphone cross-sensor tracking system"

Special Session of Machine Learning Oct. 2019
International Conference on Indoor Positioning and Indoor Navigation (IPIN) 2019 Pisa, Italy
- "How recurrent neural network performs like pedestrian dead reckoning for indoor positioning"

Machine Learning Session Sep. 2018
UK Mobile, Wearable and Ubiquitous Systems Research Symposium (MobiUK) 2018 Cambridge, UK
- "An infrastructure-free smartphone locationing system using inertial sensor data"

WORK EXPERIENCE

AI Algorithm Researcher (remote) Nov. 2018 - Present
Ubiquitous AI Lab *@University of Sheffield* Beijing, China
- Invest in an end-to-end multimodal deep learning network architecture for sensor-fusion smartphone based location tracking system
- Lead research group in dataset collection, algorithm design, model optimisation and paper writing

Fintech Department Manager Mar. 2019 - Present
CNPC *@Headquarters* Beijing, China
- Director of Risk Management System Group
- Director of Commercial Paper Exchange Platform Development Team

AI Software Researcher Oct. 2016 - May 2017
Scotland Microelectronics Centre *@University of Edinburgh* Edinburgh, UK
- Develop an indoor positioning navigation system based on indoor WiFi received signal strength and electromagnetic distribution
- Design electromagnetic distribution features based neural networks
- Develop smartphone built-in sensors based indoor positioning navigation App

Embedded Software Engineer Jun. 2016 - Aug. 2016
GUOZI Robots Automation Research Lab *@University of Zhejiang* Hangzhou, China
- Optimise the stability and efficiency of the control system of the chassis of the inspection robots
- Improve system's efficiency by 33% using self-clustering operating situations

Mobile Software Engineer Mar. 2016 - Dec. 2016
Institute for Digital Communications *@University of Edinburgh* Edinburgh, UK
- Movement data collection and processing based on wearable devices
- Instant user movement prediction AI system development. Clustering between walking, running, jumping, swimming and related complex non-periodical movements.
- Deep neural network and convolutional neural network models based machine learning algorithm development and performance test
- Improve the recognition accuracy from 60% to 97.4%

Digital Security System Intern Dec 2015 - Jan 2016
Bank of England *@Headquarters* London, UK
- Digital trading system development
- Investment strategy
- Risk management