Pengwei Yang

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Email: pyan8871@uni.sydney.edu.au
Phone: (+61)0450718075
ResearchGate: Link
LinkedIn: Link
Address: Level 4, J12
Citizenship: China

Research interests

Crowdsourcing Energy Service, Machine Learning, Computer Vision, IoT

Education

The University of Sydney Sydney, Australia

MA in Information Technology (Research Pathway) Jan 2022 – Present
Mentor: Professor Athman Bouguettaya. *WAM: 78.*
Main course: Machine learning and data mining, deep learning, natural language processing, advanced machine learning, computer research method.

Chengdu University of Information Technology Sichuan, China
BA in Electronic Information Science and Technology Sep 2016 – Jul 2020
Mentor: Dr. Qian Wu. *GPA: 2.79.*

Publication

Towards peer-to-peer sharing of wireless energy services
Status: Published by Springer, DOI
Pengwei Yang, Amani Abusafia, Abdallah Lakhdari, Athman Bouguettaya.
Conference Proceeding of the 20^{th} *International Conference on Service-Oriented Computing (ICSOC), 2022.*

Monitoring Efficiency of IoT Wireless Charging
Status: Got accepted, conference held in March 2023.
Pengwei Yang, Amani Abusafia, Abdallah Lakhdari, Athman Bouguettaya.
Conference Proceeding of the 21^{st} *International Conference on Pervasive Computing and Communications (PerCom), 2023.*

Submitted Paper

Energy Loss Prediction in IoT Energy Services
Pengwei Yang, Amani Abusafia, Abdallah Lakhdari, Athman Bouguettaya.
International Conference on Web Services (ICWS), 2023.

Technical Reports

Containminated Images Recovery by Implementing Non-negative Matrix Factorisation
arXiv:2211.04247, 2022.

Establishment of Neural Networks Robust to Label Noise
arXiv:2211.15279, 2022.

Research Experience

Energy estimation in crowdsourcing energy service (SCSLab)
Mentor: Professor Athman Bouguettaya Jul 2022 – Present

Estimating energy loss derived from the wireless power transfer process by implementing state-of-the-art machine learning algorithms. Proposed a wireless energy sharing platform that extended one wireless energy sharing application to enable near-field wireless power transfer. Demonstrated the feasibility and stability of the proposed platform. Completed energy increase estimation by making use of XGBoost, Neural Networks, and some efficient transformer-based algorithms to make predictions at time-series data.
Currently have published one demo paper at ICSOC (Core A), one demo paper at PerCom (Core A*), and submitted one regular research paper to ICWS (Core A). Planning to extend the aforementioned research to IEEE Transaction on Services Computing (TSC).

Skills

Programming
Proficient in: Python (PyTorch, Ski-learn, pandas, NumPy, etc).
Familiar with: PostgreSQL, C.

Academic writing
Overleaf, EndNote

Languages
English (fluent), Chinese (advanced)

Professional Memberships

IEEE Graduate Student Member, IEEE Young Professionals

Other interests

Photography.