

Deng Pan

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Education

MSc in Integrated Machine Learning Systems

London, UK

ELECTRONIC AND ELECTRICAL ENGINEERING DEPARTMENT, UNIVERSITY COLLEGE LONDON

09/2022 - Present

- Relevant modules: Applied Machine Learning Systems (I & II) | Data Acquisition and Processing Systems | Cloud, Data Centres and Edge-Computing | Security and Privacy | Deep Learning for Natural Language Processing | Internet of Things | Emerging Topics in Integrated Machine Learning Systems

BEng in Electronic Engineering(First Class Honours)

London, UK

ENGINEERING DEPARTMENT, KING'S COLLEGE LONDON

09/2019 - 06/2022

- Overall GPA: 89/100 Final Project: 85/100
- Relevant modules: Machine Learning for Engineers | Computer Vision | Brain-Inspired Computing and Hardware Design | Foundation of Computing (I & II) | Computational and Mathematical Thinking for Engineers (I & II) | Logic Design | Real Time Systems and Control | Hardware Design | Computer System

Recent Publications

Decentralized federated learning methods for reducing communication cost and energy consumption in UAV networks

Peer-review

13TH EAI INTERNATIONAL CONFERENCE ON MOBILE COMPUTING, APPLICATIONS AND SERVICES

10/2021 - 08/2022

- Authors: Deng Pan, Mohammad Ali Khoshkholghi, and Toktam Mahmoodi

Research & Project Experience

Decentralized federated learning methods for reducing communication cost and energy consumption in UAV networks

London, UK

FURTHER IMPROVEMENT OF UNDERGRADUATE GRADUATION PROJECT

4/2022 - 07/2022

- Further research has been done on communication cost and energy consumption based on the undergraduate graduation project.
- The code for reading the file transfer size has been optimised regarding communication consumption.
- In terms of energy consumption, the calculation of the flight power consumption of the drone has been optimised, with new communication and computing consumption.
- Based on the graduation project report, a paper is written according to the requirements of the conference party.

A Study of Decentralised Federated Learning for UAV Networks

London, UK

UNDERGRADUATE GRADUATION PROJECT

10/2021 - 04/2022

- Design of a UAV network architecture applying decentralised federated learning for future smart cities.
- The project proposes two novel aggregation methods to adapt to the complex operating environment of UAVs.
- Its effectiveness was demonstrated by numerical simulation and comparison with two benchmark methods.
- The entire project code has been designed and experimented with based on Python implementation.

Hardware-Software Co-design of Neuromorphic Networks

London, UK

UNDERGRADUATE GROUP COURSE PROJECT

10/2021 - 12/2021

- Design a spiking neural network for the MNIST handwritten digit benchmark problem based on the literature and code given by the lecturer.
- Responsible for the group's parameter tuning and experiment in learning rate of Fix decay and Cyclic Decay and for assembling and visualising everyone's data.

Honors & Awards

2022 **The Jelf Medal**, Most distinguished during the UG course

King's College London

2022 **John Oriel Prize**, Most distinction in the final examination on UG Informatics programme

King's College London

2022 **KCLEA Medal**, Most distinguished in their individual final year project

King's College London

Skills

Programming C (3 months), Python (2 years), Matlab (3 years), VHDL (3 months), Latex (2 years)
Software Visual Code Studio, Quartus, Jupiter Notebook, Anaconda
Languages English, Chinese