

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 | Electronics Application Project and Engineering Lab (I & II)

Recent Publications

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

Accepted

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

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

London, UK

FURTHER RESEARCH BASED ON UNDERGRADUATE GRADUATION PROJECT

4/2022 - 07/2022

- Conducted further research on communication cost and energy consumption based on my undergraduate graduation project.
- Optimised the code for reading the file transfer size to aid communication consumption.
- Regarding energy consumption, the flight power consumption calculation of the drone was optimised, alongside developing communication and computing comparison.
- Based on my graduation project report, a paper was written according to the conference party's requirements.

A Study of Decentralised Federated Learning for UAV Networks

London, UK

UNDERGRADUATE GRADUATION PROJECT

10/2021 - 04/2022

- Designed a UAV network architecture, applying decentralised federated learning for future smart cities.
- Proposed two novel aggregation methods to adapt to the complex operating environment of UAVs.
- Efficacy was demonstrated through numerical simulations and comparison with two benchmark methods.
- Entire project code was designed and tested based on Python implementation.

Hardware-Software Co-design of Neuromorphic Networks

London, UK

UNDERGRADUATE GROUP COURSE PROJECT

10/2021 - 12/2021

- Designed a spiking neural network for the MNIST handwritten digit benchmark problem, based on pertinent literature and code provided 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 visualizing everyone's data.

Honors & Awards

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| 2022 | The Jelf Medal , Highest achiever during the UG course | King's College London |
| 2022 | John Oriel Prize , Highest grade in the final examination of the UG Informatics programme | King's College London |
| 2022 | KCLEA Medal , Highest achiever in their individual final year project | King's College London |

Skills

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| Programming | C (3 months), Python (2 years), Matlab (3 years), VHDL (3 months), Latex (2 years), Markdown (3 months), HTML (< 1 month) |
| Software | Visual Code Studio, Quartus, Jupiter Notebook, Anaconda, Microsoft office software, Adobe Premiere Pro |
| Languages | English, Chinese |