Edward (Ying-Lun) Cheng

(+44) 07597 479 233 | edwardchengylc@gmail.com | Linkedin | Github | Website

Education

University College London (UCL) London, UK

MSc Machine Learning (First-Class Honours) *2021 - 2022*

- Core modules: Supervised Learning, Machine/Robot Vision, Natural Language Processing, Data Mining
- Graduated with Distinction (First-Class Honours).
- Computer vision and deep learning related final project.

University College London (UCL) London, UK

BEng Electronics & Electrical Engineering (First-Class Honours) *2018 - 2021*

- Related modules: Machine Learning, Intelligent Systems, Mathematical Modelling and Analysis
- Graduated with Distinction (First-Class Honours).
- CNN and CycleGAN related final project. Performed deep learning on audio signals.

University College London (UCL) London, UK

University Preparatory Certificate for Science & Engineering *2017 - 2018*

- Equivalent to A-levels. Aimed at students with high academic ability in science and engineering.
- Graduated with Distinction: Science and Society 80%, Math 92%, Physics 73%, Academic English 79%.

Experience

Intern @ CYENS London, UK

Semantic segmentation of aerial imagery *Jun 2022 - Sep 2022*

- Implemented building detection using U-net based on TensorFlow and INRIA datasets.
- Increased performance by $1-2\%$ (metric used: Intersection over Union).
- Introduced a unique data augmentation technique (boundary addition during training) and post-processing (fake positive erosion).

Projects

Stock Trading Strategy based on Moving Average *Jan 2023 – Feb 2023*

- Researched and improved a trading strategy that outperformed Dollar Cost Averaging by 84% (trading periods tested ranged from 6 months to 6 years).
- Analysed and visualised to make the results easy to present and understand.

Multi-task learning with Efficient-Net *Dec 2021 - Jan 2022*

- Built multi-task learning models using TensorFlow and pet datasets.
- Extended TensorFlow Efficient-Net and investigated the effects of auxiliary tasks.

Deep Learning method comparisons with an Ablation study *Nov 2021 – Dec 2021*

- Compared linear regression models and the use of stochastic gradient descent (SGD).
- Based on DenseNet and using cifar-10 as dataset, experimented with cross-validation, data augmentation, and different optimisers.

Maze solving problems with Reinforcement Learning *Oct 2021 – Nov 2021*

- Given a Markov Decision Process (MDP) model maze problem, implemented dynamic programming, Monte Carlo methods, and Temporal Difference (TD) learning.
- Trained a robot using a deep deterministic policy gradient.

- The analysis of the generated policy was novel and received full credit.

Emotional Voice Conversion *Nov 2020 - Apr 2021*

- Extended PyTorch CNN models and TensorFlow CycleGAN models.
- Modified deep learning models to add prescribed emotions to any given speech.
- Self-taught most of the material on machine learning and signal processing. Graded A by several academic supervisors.

Monthly Engineering Challenges *Sep 2018 - Apr 2021*

- Week-long engineering problem-solving challenges designed by the UCL engineering faculty.
- Led teams of 4-7. Responsible for workload allocation.
- Supported both software and hardware groups.
- Designed a digital power supply from scratch. Final PCB design outperformed other 5 team members and was nominated as team representative for final exam.
- Represented the team at final presentations and was responsible for answering questions from professors.

See My Website for more projects and details

Publication

- Marta Yuan-Chen Lin, Tessa Tien Nguyen, Edward Ying-Lun Cheng, Angelina Nhat Hanh Le, Julian Ming Sung Cheng, Proximity marketing and Bluetooth beacon technology: A dynamic mechanism leading to relationship program receptiveness, Journal of Business Research, Volume 141, 2022, Pages 151-162, ISSN 0148-2963, https://doi.org/10.1016/j.jbusres.2021.12.030.

Additional Experience

UKEAS (Study world spring 2021 exhibition) Tainan

University Representative Assistant *Feb 2021 – Mar 2021*

- Facilitated communication between prospective students and university representatives, providing translation where necessary.

University College London (UCL)) London

Physics Student Representative *Sep 2017 – Jun 2018*

- Gathered, organised, and presented feedback from over 100 students.
- Re-designed the coursework with the professors.

Self-employed Tainan

Physics Tutor *Jun 2017 –Sep 2019*

- Tutored high school physics. The student was accepted by Department of Electrical Engineering, National Taiwan University (ranks 15th-20th worldwide in the field of Electronic Engineering).

Skills & Interests

- Technical skills: Python (scikit-learn, TensorFlow, PyTorch, NumPy, pandas, Matplotlib), MATLAB, C++, Java, HTML, CSS, MySQL, LaTeX, Multisim, RoboDK
- Languages: Mandarin (Native), Taiwanese Hokkien (Native), English (Fluent)
- Interests: UCL badminton team, calligraphy, photography, go chess