EDWARD YING-LUN CHENG

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EDUCATION

UNIVERSITY COLLEGE LONDON　　　　　　　　　　　　　　　　　London, England

MSC Machine Learning (Master)　　　　　　　　　　　　　　　　　　　2021 - 2022

All modules: Supervised Learning, Graphical Models, Applied Machine Learning, Machine/Robot Vision, Natural Language Processing, and Data Mining.

- Graduated with Distinction (First-Class Honours).
- *Computer vision* and *deep learning* related final project.

UNIVERSITY COLLEGE LONDON　　　　　　　　　　　　　　　　　London, England

BEng Electronic and Electrical Engineering (Bachelor)　　　　　　　　　　2018 - 2021

Related modules: Programming, Engineering Challenges, Design and Professional Skills, Mathematical Modelling and Analysis, Machine Learning and Neural Computing, Programming and Control Systems, and Intelligent Systems.

- Graduated with First-Class Honours.
- *CNN* and *CycleGAN* related final project. Performed deep learning on audio signals.

UNIVERSITY COLLEGE LONDON　　　　　　　　　　　　　　　　　London, England

University Preparatory Certificate for Science & Engineering (Foundation)　　2017 - 2018

Intensive course equivalent to A-level. Targets high academic ability students in science and engineering.

- Graduated with distinction: Science and Society 80%, Math 92%, Physics 73%, Academic English 79%.

PROJECTS

INTERN at CYENS (Master)　　　　　　　　　　　　　　　　　　　London, England

Semantic segmentation of aerial imagery　　　　　　　　　　June 2022 - September 2022

- Performed building detection using *U-net* based on *TensorFlow* and INRIA datasets.
- Improved the performance by a *unique data augmentation* technique (adding boundary during training) and post-processing (fake positive erosion).

Key takeaways:

- Results improved while ML architecture *complexity remained the same*.
- *Unique solutions* provided after experimenting various methods (Including inspired by literature and original methods)
- *Time and project management* skills improved in order to successfully complete the project.

UNIVERSITY COLLEGE LONDON (Master)　　　　　　　　　　　　London, England

Multi-task learning with Efficient-Net　　　　　　　　　　December 2021 - January 2022

- Built multi-task learning model with *TensorFlow* and pet datasets.
- Extended *TensorFlow Efficient-Net* and examined effects of auxiliary tasks.

Key takeaways:

- *Teamwork* of six people, learnt to *collaborate* and provide support when needed.
- Project with no fixed title, which required high level of *creativity* and *problem-solving* skills.

UNIVERSITY COLLEGE LONDON (Bachelor)   London, England

Final project: Emotional Voice Conversion   November 2020 - April 2021

- Extended *PyTorch CNN* models and *TensorFlow CycleGAN* models.
- Modified deep learning models to add prescribed emotion onto any given speech.
- *Self-taught* most materials on machine learning and signal processing. Graded A by multiple academic supervisors.

Key takeaways:

- A project that was beyond the syllabus. Required high level of *self-learning* and *creativity*.
- Skills including *signal processing*, machine learning on *audio*, analysis on audio.

UNIVERSITY COLLEGE LONDON (Bachelor)   London, England

Group projects and Scenario weeks   September 2018 - April 2021

- University projects and UCL Scenario weeks (week-long engineering problem-solving challenges at UCL).
- *Led teams* of 4-7 through scenario weeks; set directions and assisted both software and hardware groups.
- Designed a digital power supply from scratch. The final *PCB design* represented team for final examination.
- Always representing team in final *presentations* and answering challenges from professors.
- *Analysis skills* - novel ideas of evaluating Python pygame models which received full marks for project.

PUBLICATION

- Lin, M.Y.C., Nguyen, T.T., **Cheng, Edward Ying-Lun**, Le, A.N.H., and Cheng, J.M.S. (Accepted), "Proximity marketing and Bluetooth beacon technology: A dynamic mechanism leading to relationship program receptiveness", *Journal of Business Research* (2020 SSCI Impact Factor: 7.550, JCR in Business 28/153, Q1).

ADDITIONAL EXPERIENCE

UKEAS (STUDY WORLD SPRING 2021 EXHIBITION)   Tainan, Taiwan

University Representative Assistant   February 2021 - March 2021

- Assisted *communication* between participating audiences and university representatives and provided *translation* if necessary.

SELF-EMPLOYEED   Tainan, Taiwan

Physics Tutor   June 2017 - September 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).

UNIVERSITY COLLEGE LONDON   London, England

Physics Student Representative   September 2017 - June 2018

- *Collected, organised, and presented* the feedback of over 100 students; also provided advice on the design of the coursework.

SKILLS, INTERESTS & OTHER WORK EXPERIENCE

- Programming Languages: Python, MATLAB, C/C++, Java.
- Technical skills: Latex, Multisim, DipTrace, RoboDK.
- Languages: Mandarin (Native), Taiwanese Hokkien (Native), English (Fluent)