HONGZHOU LUAN

Tel: +86 15845947113 ⋄ Email: hongzhouluan@gmail.com ⋄ LinkedIn: https://www.linkedin.com/in/hongzhou-luan/
Website: hzluan.wordpress.com/ ⋄ Github: github.com/hzluan

EDUCATION

University of Oxford   2018-2022
MEng Engineering Science
Third year modules: Information Engineering, Control Engineering (95% final results), Software Engineering, Biomechanics and Medical Modelling and Monitoring (81% final results).
Fourth year modules: Machine Learning, Non-linear and Optimal Control, Medical Imaging and Informatics, Cellular Engineering and Therapy, Probability, Systems and Perturbation Methods and Mathematical Techniques.

St Swithuns's School
A levels   2016-2018
Subjects: 7 A*s in Maths, Further Maths, Physics, Chemistry, Biology, Chinese and EPQ.

TECHNICAL SKILLS

Languages	(Ranked in the order of familiarity) Python, Matlab, C++, C
Libraries	PyTorch, Tensorflow, Sci-kit learn, Numpy, MNE, Matplotlib, Pandas.
Utilities	VSCode, Office, LaTeX

ACHIEVEMENTS

Jardine Scholar   2018 - 2022
A very prestigious full scholarship for the whole duration of the course sponsored by the Jardine Foundation with an additional annual stipend of £10,300.

Trinity College Progress Award   2020 - 2021
A college prize awarded to mark the progress in academic work over the 2020/2021 academic year.

SELECTED RESEARCH EXPERIENCE

Master's Project   2021 - 2022
Algorithms for Epilepsy Diagnosis in Low- and Middle Income Countries: Deep Learning Algorithms for Signal Integrity and Epilepsy Detection
Supervisors: Professor Timothy Denison and Dr Tingting Zhu, IBME Center, University of Oxford
Funding source: Wellcome Trust
· Aim to develop a seizure prognostic device using inter-ictal EEG channel data for low-cost epilepsy diagnostic device.
· Built an EEG signal quality detector to exclude artifact-heavy signals and an epilepsy detector using supervised variational autoencoders, yielding high sensitivity and specificity.

Bachelor's Group Project   2020 - 2021
Close-loop Controlled Anaesthesia
Supervisor: Professor Timothy Denison, IBME Center, University of Oxford
· Independently proposed the research aim and methodology for the group project. team of four students and achieved a first-class grade.
· Developed a closed-loop controlled anaesthesia procedure based on the BIS index extracted from EEG signals for steady and stable anaesthetic states.
· A simulation of the controller system was built using Simulink and yielded successful results when tested using human data.
· Built a first-in-all pharmacodynamical and pharmacokinetics based simulation modelling the patient reaction to anaesthetics to the BIS index with required open access data. of the controller system was built using Simulink and yielded successful results when tested using human data.

ADDITIONAL TRAINING AND PROJECTS

Neuromatch Deep Learning Summer School   github.com/hzluan/nma2022_RL_riskychoice_project
Insight From Reinforcement Learning: A Study of Risky Choices Decision-Making
· Attended lectures on deep learning and led a team of 8 to complete a project on reinforcement learning and human decision-making.