Hongzhou Luan

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EDUCATION

UC Berkeley + UCSF 2023-

PhD Computational Precision Health

Advisors: Prof. Ida Sim

Courses: CS282A Designing, Visualizing and Understanding Deep Neural Networks

CPH Cornerstones: project based lecture series on Deep Learning, Causal Inference and Healthcare AI Equity.

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.

AWARDS

· **Jardine Scholar** 2018 - 2022

A very prestigious full scholarship for the whole duration of four years at Oxford sponsored by the Jardine Foundation with an additional annual stipend of £10,300.

SELECTED RESEARCH EXPERIENCE

PhD Rotation 2024

Access Impact on Healthcare Outcomes Advisor: Prof. Irene Chen

· Investigating the impact of access to care on the healthcare outcomes in various conditions using the All of Us Dataset.

· Assessing whether using access as a prediction feature increases equity performance of clinical prediction models.

PhD Rotation 2023

Cancer Survival Rate Prediction Using Deep Learning Models Advisor: Prof. Adam Yala

· Ran experiments to discover fundamental factors that affect rank gain in a pretrained model.

· Built DL models for survival rate prediction in multiple cancer types.

Master's Project 2021 - 2022

Algorithms for Epilepsy Diagnosis in Low- and Middle Income Countries Supervisors: Professor Timothy Denison and Dr Tingting Zhu, IBME Center, University of Oxford

· Developed a seizure prognostic device using inter-ictal EEG channel data for low-cost epilepsy diagnostic device.

· Funding source: Wellcome Trust

Bachelor's Group Project 2020 - 2021

Closed-loop Controlled Anaesthesia System University of Oxford

· Led a team of four students to develop a closed-loop controlled anaesthesia procedure based on the BIS index extracted from EEG signals for steady and stable anaesthetic states.

· 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.

PUBLICATIONS

· Zink, Anna, Hongzhou Luan, and Irene Y. Chen. "Access to care improves EHR reliability and clinical risk prediction model performance." ML4H 2024.