

RAYMOND WONG

PhD – MATERIALS SCIENCE (MATERIALS INFORMATICS) | MSc – ENGINEERING MATHEMATICS

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ABOUT ME

Professional Interests Machine Learning, Data Science and Visualisation

Technical Skills Fluent: Python Experience With: C++, Matlab, SQL, Java, R, ReactJS

EDUCATION

Imperial College London | PhD Materials Research

(2022–2025)

- The research focuses on applied data analytics and machine learning for alloy design and parameter optimisation for metal additive manufacturing (3D printing)

University of Bristol | MSc Engineering Mathematics | (**Distinction**)

(2020-2021)

- Notable modules: Research Project (78%), Intelligent Information Systems (78%), Applied Statistics (75%), Research skills (74%), Mathematical and Data Modelling (72%), Optimisation Theory and Applications

University of West of England | B.Eng Mechanical Engineering | (**First Class**)

(2014-2017)

- Notable modules: Engineering Mathematics 1 (98%), Engineering Mathematics 2 (96%)
- Awards: 2 Dean's List Award

COMPETITIONS AND PROJECTS

IMC Trading | **Prosperity** | **48th UK** | **Top 5% Global**

(2024)

- IMC's 15-day Algorithmic Trading hackathon competing against 13,000+ participants. Algorithmic trading strategies implemented includes market making by estimating fair value of commodities and ETF, statistical arbitrage, applying Black-Scholes model for option pricing and delta hedging strategies.

Morgan Stanley | **Code to Give**

(2023)

- Spearheaded a team in the creation of a story generator web app for children with different impairments and mobility limitations, capable of receiving text, speech and sign language inputs
- Trained convolutional neural networks to interpret sign and number sign inputs from a user's webcam feed

OrionHack | **Space Hackathon** | **2nd Place**

(2023)

- Trained LSTM model to predict risk of collisions for satellites and debris
- Visualisation of satellites and debris based on live data, highlighting areas with high risk to mitigate collisions

EMPLOYMENT

Imperial College London | **Graduate Teaching Assistant**

(Oct/2022 – Present)

- Provided support in tutorial sessions for Year 1 and Year 2 Python classes
- Delivered Mathematics tutorials to Year 1 students, responsibilities includes teaching and marking
- Supervised three Master students projects on both data analytics and machine learning for materials science

PUBLICATIONS

Predicting Fabricated Material's Properties and Quality

(2023)

- Constructed multiple machine learning models (DNN, LightGBM, CatBoost etc...) for predicting material properties and quality of print, based on process parameters and material used
- Utilised sensitivity analysis analysis to interpret trained models
- Link to study: <https://doi.org/10.48550/arXiv.2308.16621>

ADDITIONAL INFORMATION

Imperial College London | **Head of Corporate Relations** | **AlgoTrading Society**

- Engaged with industry leaders to secure sponsorships and assisted organising UK's largest student led algorithmic trading hackathon with 250 teams across multiple universities

JPMorgan Chase & Co. | **Quantitative Research Virtual Experience Program on Forage**

- Conducted credit risk analysis to predict probability of default, priced commodity of storage contracts, analysed price data and used dynamic programming to convert FICO scores into categorical data