STEVE HONG

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Education

University of Cambridge - MPhil Machine Learning & Machine Intelligence **Sep 2024 - Sep 2025**
- Candidate for the Machine Learning Track of the 11-month intensive programme that covers advanced topics in Deep Learning, Probabilistic Learning, Reinforcement Learning, Natural Language Processing and Computer Vision

University College London - BSc Statistics **Sep 2021 - Jun 2024**
- **Grades:** First-Class Honours and ranked in the **top 13% of cohort**, with **80% Grade** (Top 3) in final-year thesis
- **Modules:** Machine Learning, MCMC methods, Bayesian Statistics, Financial Mathematics, Time Series Models
- Collaborated in 15+ technical individual and group projects that involves developing new libraries and data analysis

DLD College London - A Levels & GCSE **Sep 2018 - Sep 2021**
- **Grades:** Mathematics (A*), Further Mathematics (A*), Economics (A*), Physics (A), AEA Maths Awards (top 5% nationally)
- Awarded an academic excellence scholarship covering £80,000 of tuition fee

Professional Experience

J.P. Morgan & Chase - Data Science Summer Analyst **Jun 2024 – Aug 2024**
- Build a regression model to predict Wealth Score from a multicolinear 100-dimension dataset using Ridge Regression and XGBoost
- Perform clustering analysis on an 80-dimension mixed dataset to identify investment interests of clients primarily holding cash
- Conduct weekly hypothesis tests to evaluate media spending impact on investment deposits in EMEA, APAC, and LATAM

J.P. Morgan & Chase - Data Science Summer Analyst **Jun 2023 – Aug 2023**
- Speed up by 10% J.P. Morgan's investment news analysis processes by developing a document classification algorithm
- Fine-tuned a FinBERT model for customised financial named-entity recognition, gaining experience with Transformer architecture
- Utilised data preparation, regularisation, and optimisation techniques that resulted in a model in continued active development

IMC Trading - Masterclass Programme in Quantitative Trading **Oct 2022–Oct 2022**
- Selective in-person student programme for training in market making, probability and financial markets
- Ranked 1/10 groups for a hackathon in progamming a trading algorithm that exceeded performance of IMC's algorithm

Jane Street - Spring Week in Quantitative Trading **Apr 2022–Apr 2022**
- An in-person training programme in probability and market making through numerous interactive games
- Engaged in three days of exercises in applying probabilistic thinking to decision making, especially in market making

Goldman Sachs - Spring Week in Software Engineering **Mar 2022–Apr 2022**
- Selected among 4000+ candidates for a six -day student insight programme to work-shadow quantitative strategists
- Ranked 1/5 in a hackathon where my team designed a investment recommendation platform incorporating machine learning

Research Experience

Thesis - Non-Stationary & Multi-Task Gaussian Processes for Wind Turbine Monitoring **Sep 2023 – Jun 2024**
- Reduce wind farms operation costs by detecting early break-downs, with Prof. Petros Dellaportas and Miss Domna Ladopoulou
- Contributed a GPyTorch extension for Non-Stationary Spectral Kernel leading to a 20% reduction in RMSE and NLPD
- Submitted a research paper on the development and application of these methods to the Renewable Energy journal

Research Project - Bayesian Logistic Regression to Address High Multicollinearity **Mar 2024 – Apr 2024**
- Stabilised parameter estimates in logistic and cauchit regression models using Bayesian inference with MCMC
- Optimised candidate distribution selection through experimentation, emphasising heavy-tailed properties and preconditioning
- Diagnosed convergence and accuracy using Brier scores, effective sample sizes, and trace plot analyses

Research Project - Bayesian Inference in Heston's Model **Dec 2023 – Feb 2024**
- Investigated key derivations and results in the Heston's stochastic volatility model for option pricing
- Explored the literature on MCMC methods for approximating Bayesian inference of the parameters in Heston's model
- Produced code for MCMC parameter inference and conducted comparison with point estimation methods

Skill Summary

Programming Languages: Python, R, PostgreSQL
Libraries/Tools: PyTorch, TensorFlow, Transformers, Pandas, Numpy, Matplotlib, PySpark
Languages: English (Proficient), Vietnamese (Native)
Interests: Professional photography and Architecture