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 Grade in first and second year and ranked in the **top 10% of cohort**
- **Modules:** Machine Learning, MCMC methods, Bayesian Statistics, Financial Mathematics, Time Series Models, Data Structures
- 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

Technical 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
- Enhanced model RMSE by 20% using a Spectral Mixture Kernel, surpassing current wind farm benchmarks
- Contributed a GPyTorch extension for Non-Stationary Spectral Kernel leading to a further 5% reduction in RMSE and NLPD
- Submitting a research paper on the development and application of these methods to the Renewable Energy journal

J.P. Morgan - Data Science Summer Analyst **Jun 2023 – Aug 2023**

- Speed up by 10% J.P. Morgan's investment news analysis processes by developing a document bucketing 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
- Return offer received for 2024 Summer Internship

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 results in the Heston's stochastic volatility model for option pricing and times series analysis
- Explored the literature on MCMC methods for approximating Bayesian inference of the parameters in Heston's model
- Produced code for MCMC parameter inference and achieved 5% improvement in RMSE compared to point estimation methods

Extracurricular Activities

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 out of 10 groups for competition 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 6-day student insight programme to work-shadow quantitative strategists
- Contributed to the design and development of a investment recommendation platform using machine learning

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