

Yinghao (Peter) Guan

Computer Science

School of Informatics, University of Edinburgh

Education

University of Edinburgh, BEng in Computer Science

Sept 2022 – July 2024

- GPA: II.2 (C)
- **Major Courses:** Software Engineering and Professional Practice, Object-Oriented Programming, Reasoning and Agents

Research Experience

Course Project: Performance Trends in Ultra Marathon Runners: A Data-Driven Analysis

Sep 2023 – Dec 2023

- Explored global ultra-marathon performance trends using a Kaggle dataset with 200k+ race records.
- Preprocessed and analysed data using Python (pandas, seaborn, matplotlib, sklearn, scipy).
- Applied K-means clustering to identify runner segments based on performance metrics and demographics.
- Visualised group-specific trends across race categories (50km, 100km, 50mi, 100mi), highlighting club-affiliated and age-based patterns.
- Authored a LaTeX report detailing insights with annotated plots and methodological notes.

Course Project: Design and Implementation of a Hierarchical FAQ System for University Kiosks

Jan 2024 – May 2024

- Developed a campus FAQ system using Java and the MVC architecture, designed to assist users through a hierarchical interface and integrated messaging service.
- Created UML diagrams (use case, class, sequence) to guide system design and documentation.
- Implemented a keyword-based search using Lucene and functionality for users to submit unanswered questions, routing queries to university staff.
- Employed Git for version control and JUnit for unit testing to ensure code robustness.
- Delivered a fully functional FAQ system with secure user authentication and dual-response logic for current and prospective students.

Technical Activities & Events

Independent Research Project: Behavioural Modelling of Excessive Trading in Tech Stocks Following a Major LLM Release

Jan 2025 – Apr 2025

- Investigated the influence of behavioural biases (anchoring, FoMO) on excessive trading in the U.S. tech market using PLS-SEM.
- Collected data from stock market sources (META, GOOGL, MSFT, NVDA, etc.) and external indicators (social media sentiment, Google Trends) to model trading behaviour.
- Analysed the impact of the DeepSeek R1 model launch on stock trading using regression and model diagnostics (outer loadings, R^2 , VIF).
- Conducted robustness checks across different event windows (± 30 days, ± 10 days).
- Compiled findings into a LaTeX report and gained experience in behavioural finance modelling and multi-language statistical analysis.

Hackathon Participation

- **Encode Hackathon**, London, 2023
Engaged in workshops on blockchain and smart contracts; gained hands-on experience with Solidity and dApp frameworks.
- **AdaHack**, University of Edinburgh, 2024
Participated in a two-day event focused on ethical AI solutions; explored real-time NLP APIs and contributed to

brainstorming an system design in a cross-functional team.

- **Encode x Ethena Hackathon**, Online, 2024

Attended a four-week Web3 learning sprint; explored DeFi concepts and Ethena's synthetic dollar; practiced smart contract development and blockchain design principles.

Research Interests

- Deeply interested in decentralised technologies and the Web3 ecosystem, particularly in blockchain infrastructure, smart contracts, and decentralised finance (DeFi). Also exploring how these systems intersect with emerging AI technologies, including the potential for intelligent dApps and autonomous on-chain agents. Currently considering future research and development paths at the intersection of Web3, financial systems, and applied artificial intelligence.

Additional Information

Computer Skills: Python, Java, Solidity, R, C, Haskell, LaTeX, Git, Excel

Languages: Chinese, English

Interests: Cryptocurrencies Investment, Piano, Golf