LI, KIN FUNG (CALVIN)

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EDUCATION

The Hong Kong University of Science and Technology (HKUST) Sep 2019 - May 2024
Dual Degree Program: BEng(COMP & ELEC) & BBA(GBM); Minors in Math and Robotics
· CGA: 3.95/4.3 with Academic Achievement Medal *(top 1%)*
· Thesis: *Event-triggered Estimation: Observability, Identifiability and Parameter Learning*
· Activities: Academic Secretary (DDPOC 2020-21), Student Ambassador (IPOSA 2020-21)

Eidgenössische Technische Hochschule (ETH) Zürich Feb 2022 - Aug 2022
Semester Exchange: Computer Science
· Grade: 5.63/6.0
· Member of *The Alternative*, a student society for technology, e.g. Linux, bash, console

RESEARCH INTERESTS

Stochastic and Risk-aware Control; Event-Triggered Mechanism; Phase Theory; Other topics in Systems Control.

RESEARCH EXPERIENCE

Matrix Phases Jun 2023 - Present
Research Assistant to: Prof. Li Qiu
· Studied the sectorial and segmental matrix phases, accretive-dissipative theory, numerical ranges and extensions

Ultra-Reliable and Low Latency Communications (URLLC) in 5G Networks Jun 2023 - Present
Industrial Project; Jointly supervised by Prof. Ling Shi and Dr. Yuchi Wu
· Literature review of modern wireless communications
· Migrate multi-armed bandit (MAB) algorithms to link adaptation settings in 5G URLLC

Independent Study on Matrix Theory and Canonical Angles Dec 2022 - Feb 2023
Research Assistant to Prof. Li Qiu
· Authored the extensions to the textbook for "ELEC5600: Linear-System Theory" at HKUST
· Content: unitarily invariant norms, perturbation theory, canonical angles, Grassmann space and metrics

WORK EXPERIENCE

Flurry Finance Jun 2021 - Feb 2022
Software Engineering Intern
· Implemented on-chain optimization of DeFi lending portfolio, up to 2x return of naive algorithm
· Programmed smart contracts and scripts for yield farming, staking, tokens, trading, price oracle

HIGHLIGHTED SKILLS

Electronic Engineering	Control Theory, Networked Control, Statistical Signal Processing
Mathematics	Probability Theory, Kernel Mean Embedding, Linear Algebra, Analysis, etc.

OTHER SKILLS / COURSEWORK

Electronic Engineering	Embedded Systems, Circuits, IC Design
Computer Science	Object-Oriented and Functional Programming, Computation Theory, Machine Learning, Databases, Algorithms, Formal Methods, Networking
Economics & Finance	Econometrics, Portfolio Theory, Derivative Securities, DeFi
Programming Languages	Java, Haskell, C, C++, Solidity, Python, JS, TS, MATLAB, R, etc.
Circuit Design	Altium, Cadence

PROJECTS AND LEADERSHIP

T&M Prototyping: AI for Credit Rating Migration and Spread Prediction Jun 2023 - Aug 2023
Student Developer (Team Leader and MVP)
· Prototyped an ML-based bond portfolio dashboard for credit rating and spread prediction
· Presented solution to a panel of director-level traders, porfolio managers and corporate bankers
· Data preprocessing of financial statements, ratings, bond data of OECD banks, and macroeconomic indicators

· Time series feature engineering, model training and validation
· XGBoost for rating classification and migration; Autoregressive exogenous (ARX) model for spread prediction

T&M Corporate Consulting: Google and Open Data Strategy for HKT Feb 2023 - May 2023
Student Consultant & Developer (Best performing team; Team Leader and MVP)
· Provided consultation to HKT Digital Out-of-Home (DOOH) business unit
· Presented solution to HKT executives, Google Cloud HK engineering team, and TalentLabs cofounders
· Deliverables: geospatial analysis, dashboard app, consultation report and presentation

Robocon Subteam, HKUST Robotics Team Dec 2019 - Jun 2021
Team Leader & Hardware Engineer
· Multiple champions and awards in Robocon (2021: archery, 2020: rugby)
· Managed 30+ mechanical, hardware and software engineers, performed circuit design and electronics R&D

T&M Prototyping: Financial Investment Prototyping for UBS Zürich Dec 2020 - Jan 2021
Student AI Developer (Team Leader)
· Prototyped a ML-based fintech startup prediction tool with 70% accurate funding patterns
· Data pipelining, hypothesis testing, K-means, PCA, decision tree, regression

AWARDS AND SCHOLARSHIPS

Cheung On Tak Charity Foundation Scholarship	Sep 2019 - May 2024
Fung Scholarship	Dec 2021 - Aug 2022
HKSAR Government Scholarship Fund - Talent Development Scholarship	Sep 2020 - Aug 2021

LANGUAGES

Native in Cantonese; Fluent in English and Mandarin.