LI, KIN FUNG (CALVIN)

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WORK/RESEARCH EXPERIENCE

RFID-based Indoor Localization for UGV
Jun 2022 - Present
Student Researcher

· Developed an RFID-based indoor localization system for unmanned ground vehicles (UGV)
· Studied and implemented kinematics model and path planning algorithms

Proprietary Blockchain Data Analysis
Jun 2022 - Jul 2022
Data Analyst

· Data analysis and visualization of Ethereum AMM trading data
· Techniques: GraphQL, FFT, piecewise linear regression, etc.

Flurry Finance
Jun 2021 - Feb 2022
Software Engineering Intern

· Implemented **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
· Integrated with popular DeFi projects (Aave, Uniswap, Chainlink, etc.)

EDUCATION

The Hong Kong University of Science and Technology (HKUST)
Sep 2019 - May 2024
Dual Degree Program: BEng(COMP & ELEC) & BBA(GBM)

· 3 majors in Computer Science, Electronic Engineering and Business, and 2 minors in Math and Robotics
· CGA: 3.94/4.3 *(top 3%)*
· Activities: Academic Secretary (DDPOC 2020-21), Student Ambassador (IPOSA 2020-21)

Eidgenössische Technische Hochschule (ETH) Zürich
Feb 2022 - Aug 2022
Semester Exchange: Computer Science

· Member of *The Alternative*, a student society for technology, e.g. Linux, bash, console

PLK Centenary LSC Mem. College
Sep 2013 - Jul 2019

· HKDSE: 5** in Chinese, Math, M2, Physics, Chemistry and Economics, 5* in English *(top 0.2%)*

TECHNICAL SKILLS

Programming Languages	Java, Haskell, C, C++, Solidity, Python, JS, TS, MATLAB, etc.
Computer Science	OOP, Functional Programming, Algorithms, Formal Methods, ML, Smart Contract & DeFi, Database, Networking
Electronic Engineering	Signal Processing, Control Theory, Circuits, Embedded Systems
Finance	Markowitz Portfolio, Factor Models, EMH, Asset Valuation
Math	Discrete Math, Linear Algebra, ODE, Probability

EXTRA-CURRICULAR EXPERIENCE

Algo Crypto Trading Challenge 2022   Jul 2022 - Present
Team Leader, Finance Lead

- **Portfolio Optimization using LSTM Price Prediction, Economic Data and Sentiment Analysis**
- Reviewed academic literatures and crypto market reports
- Applied statistical methods in trade execution, capital and risk management

Robocon Subteam, HKUST Robotics Team   Dec 2019 - Jun 2021
Team Leader, Senior Hardware Engineer ← Junior Hardware Engineer

- **Multiple champions** and awards in Robocon (2021: archery, 2020: rugby)
- Managed robot R&D progress for 30+ mechanical, hardware and software engineers
- Circuit design, routing, electronic R&D (laser ADC, regulators and converters, etc.)

UBS Zürich HQ   Dec 2020 - Jan 2021
Student Analyst (Team Captain, AI Developer)

- Prototyped a ML-based **fintech startup prediction tool** with **70% accurate funding patterns**
- Data pipelining of *Crunchbase* dataset
- Models and methods: hypothesis testing, K-means, PCA, decision tree, regression

PROJECTS

Formal Verification of Java Project   Spring 2022
Rigorous Software Engineering @ETH Zürich

- **Numerical** and **pointer analysis** in **polyhedra abstract domain**
- Handled arithmetic, boolean, branch and loop expressions on integers
- Tools used: Apron, Soot, SLF4J, Logback, JaCoCo, Maven, Docker

Reliable Transport Layer   Spring 2022
Computer Networks @ETH Zürich

- Implemented **sliding window** over User Datagram Protocol (UDP) in C
- Reliable against packet loss, reordering, duplication and corruption
- Features: cumulative ACK, sender and receiver buffer, timer and retransmission

Digital Audio Player (DAP)   Fall 2021
Introduction to Embedded Systems @HKUST

- Circuit design in Altium, programmed in C with STM32 toolchain
- DAP functionalities: MP3 and WAV support, audio codec and equalizer, FATFS file I/O
- Features: text-based UI, encoder, system clock, interrupt, button, LED

Operation H (Top-down Shooter Game, Inspired by *Twilight Wars*)   Fall 2020
Honors OOP and Data Structures @HKUST

- Programmed in C++ with Qt as GUI framework
- Features: A* path search, bullet trajectory and collision, map height system, camera
- Design patterns used: singleton, flyweight, strategy