

## EDUCATION

---

- University of Cambridge** (HKU-Cambridge Joint Recruitment Scheme) (10/2021 – present)  
*Bachelor of Arts (Hons), Master of Engineering (Hons) in Information and Computer Engineering*
- First Class Honours, Rank 36 out of 277, 13<sup>th</sup> percentile.
  - Digital circuits, statistical signal processing, information theory, machine learning, mathematical methods and optimization.
- University of Hong Kong** (HKU-Cambridge Joint Recruitment Scheme) (09/2019 – present)  
*Bachelor of Engineering, Major in Computer Engineering, Minor in Finance*
- First Class Honours, Cumulative GPA of 3.93.
  - HKU Engineering Dean's Honours List, HKU Foundation Entrance Scholarship, HKU EE72 Chan Kam Yin Scholarship.
  - Discrete mathematics, algorithms and data structures, computer architecture, investments and portfolio analysis.
- Sunway College** (GCE Advance Level) (02/2017 – 07/2018)
- Jeffery Cheah Entrance Scholarship, Harvard Prize Book Award, Sunway College GCE A-Level High Achiever Award.
  - Mathematics (A\*), Physics (A\*), Chemistry (A\*), Further Mathematics (A).

## WORK EXPERIENCE

---

- Visa Inc.** (07/2023 – present)  
*Software Developer Intern, Open VisaNet Tools*
- Gained hands-on experience with Visa's distributed payments processing platform and its micro-service architecture.
  - Built a locally hosted Large Language Model (LLM) service using Llama v2 with LangChain and the Fast API framework to provide question answering services over Visa's developer documentations to a team of 150 developers.
  - Developed CLI tools to retrieve/parse workspaces concurrently and dynamically generate service configuration files at runtime.
  - Linux, Python, Go, Java, Flask, Docker, Docker Compose, PostgreSQL, SQLite.
- ARM Limited** (07/2022 – 06/2023)  
*Software Engineering Intern, GPU Build systems and DevOps*
- Performed preliminary refactoring of the GPU Driver Development Kit codebase in C/C++ to support remote build execution.
  - Setup hermetic build systems, test environments and CI/CD pipelines.
  - Wrote proprietary bash and Python scripts to automate the migration of repositories between GitLab instances across 10+ teams in the GPU division and spun out commonly used Python or NPM packages to the local GitLab registry.
  - Linux, Python, Poetry, Tox, JavaScript, TypeScript, NPM, C, C++, Docker, CMake, Bazel, Jenkins.
- Department of Computer Science (CS), The University of Hong Kong** (07/2021 – 09/2021)  
*Research Assistant, Natural Language Processing*
- SNKRFIED MY (Malaysia)** (01/2021 – 06/2021)  
*Co-founder, Software Lead*
- Co-founded a small SaaS business that provides web-monitoring and automation tools for the sneaker community with a peak subscriber count of about 200 with a monthly revenue of approximately RM 3000.
  - Built the website and Discord bots to provide additional tools/services to customers such as automatic checkout, web scrapers to monitor 10+ eCommerce websites continuously, equipped with rotating proxies and exponential back-offs.
  - Python, JavaScript, HTML, CSS, Bootstrap, MDL, Puppeteer, Scrapy, Selenium, ExpressJS, Firebase, Firestore, GCP.
- ## SELECTED PROJECTS & RESEARCH
- 
- Snapshot Compressive Imaging with Score-based Generative Models** (07/2022 – 10/2022)
- Accepted by the 10th IEEE International Conference on Data Science and Advanced Analytics (DSAA 2023).
  - Awarded the HKU Teaching Development and Language Enhancement Grant (TDLEG) 2022.
  - Designed 3 novel algorithms for Snapshot Compressive Imaging by modelling the data as a stochastic variable and performing Langevin sampling, with a score model to approximate the scores of the posteriori distribution.
  - Python, NumPy, Jax, PyTorch, TensorFlow, Scikit-learn, Conda, Jupyter.
- RISC-V Processor Design and Optimization** (05/2023 – 06/2023)
- Awarded the Cambridge Engineering Tripos 3<sup>rd</sup> Year Project Prize.
  - Improved the performance (10x reduction in execution time for selected binaries) of an unoptimized RV32I RISC-V processor on the Lattice iCE40 FPGA, using a completely open-source toolchain with the final design lying on the Pareto frontier.
  - Reducing critical path delays to increase upper-clock frequency limit from 6 MHz to 24 MHz.
  - Reduced average CPI from 3.75 to 1.72 by replacing the default static branch predictor with a custom G-share branch predictor.
  - Unix, C, VHDL, Verilog, SystemVerilog, Yosys, Project IceStorm, NextPNR.
- Machine Learning Control** (05/2023 – 06/2023)
- Modelled the dynamics of a cart pole system using regularised regression with Gaussian Radial Basis functions.
  - Built a non-linear controller to swing and maintain the pole upright using model predictive control principles.
  - Addressed the problem of poor gradients by using Nelder-Mead optimizer rather than common SGD methods.
  - Achieved ~100x speed up in training by using Numba JIT compiler and rewriting provided library functions.
- National Robotics Competition Malaysia, 1<sup>st</sup> Runner Up (2014 and 2015)** (03/2014 – 03/2015)
- Built an exploration rover equipped with the Rocker-Boogie suspension system and two counter-balancing 3-axis robotic arms.