KEI YAT LONG, ANDES

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EDUCATION

The Chinese University of Hong Kong Hong Kong
Ph.D. in Information Engineering Aug 2022 - Present

- Research Interest: Privacy-preserving Machine Learning and Blockchain
- Supervisor: Professor Sherman S. M. Chow
- Hong Kong PhD Fellowship Scheme Awardee
- Teaching Assistant:
    - ENGG 2440 Discrete Mathematics for Engineers (2022-23 Term 1)
    - DSME 6788 Cyber Security (2022-23 Term 1)

The Chinese University of Hong Kong Hong Kong
B.Eng. in Financial Technology Sep 2018 - Jul 2022

- First Class Honours (CGPA: 3.827/4.000, Major GPA: 3.941/4.000)
- Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream
- Minors: Computer Science, Information Engineering, Web and Cloud Computing
- Honors and Awards:
    - Dean's List 2018/19, 2019/20, 2020/21, 2021/22 (top students in the Faculty of Engineering)
    - Head's List (Merit) 2018/19, 2020/21 (top students in New Asia College)
- Scholarships:
    - ELITE Stream Scholarship 2019/20, 2020/21, 2021/22 (outstanding performance in ELITE courses, $52,000)
    - Mr. Wu Sai Wing Memorial Scholarship 2020/21 (10 awardees among the college, $10,000)
    - AIG Hong Kong Scholarship 2020/21 (4 awardees among the university, $20,000)
    - HKSAR Government Scholarship 2021/22 (top students among all universities in Hong Kong, $40,000)
    - The KJ & HK Charitable Trust Academic Scholarships 2021/22 (top students among the college, $21,050)

WORK HISTORY

Department of Information Engineering, the Chinese University of Hong Kong Hong Kong
Research Assistant May 2022 - Jul 2022

- Topic: Privacy-enhancing Techniques for Authentication
- Supervisor: Professor Sze Yiu Chau (Department of IE, CUHK)
- Performed literature review on WPA2-Enterprise security and privacy-enhancing techniques for authentication
- Designed a practical, privacy-preserving authentication method for WPA2-Enterprise Wi-Fi

Faculty of Engineering, the Chinese University of Hong Kong Hong Kong
Summer Research Intern Jun 2021 - Aug 2021

- Topic: Fast and Scalable Payment using Cryptocurrencies
- Supervisor: Professor Sherman S. M. Chow (Department of IE, CUHK)
- Performed literature review on off-chain (layer-2) scalability solutions on blockchain, including their techniques, advantages, and limitations
- Constructed a new off-chain protocol for private and scalable blockchain micropayment with practical collateral

Faculty of Engineering, the Chinese University of Hong Kong Hong Kong

Summer Research Intern Jun 2020 - Aug 2020

- Topic: Stochastic Optimization for Reinforcement Learning
- Supervisor: Professor Hoi To Wai (Department of SEEM, CUHK)
- Developed a simulation environment for testing reinforcement learning algorithms
- Implemented 4 reinforcement learning algorithms and evaluated their empirical performance
- Reviewed a learning control problem from academic paper and solved it using implemented algorithms

PROJECTS

PlaNET - Work Productivity App with Firebase
GitHub Link

- An Android app that allows users to prioritize their work and receive notifications of upcoming deadlines
- Developed this project in Java and used Firebase to store the to-do work of users

Deep Learning Project
GitHub Link

- Kaggle competitions on image, sequence and graph tasks, including (1) Face Classification (2) Antibiotic Resistance Genes Prediction (3) Graph Node Classification
- Developed this project with Python and used different deep learning packages such as PyTorch
- Obtained 2nd place / 28 teams in Task 1, 1st place / 31 teams in Task 2, and 2nd place / 8 teams in Task 3

Secure E-commerce Website
GitHub Link

- An E-commerce website that supports secure checkout flow with PayPal sandbox
- Developed the project front-end in Javascript and the project back-end in PHP
- Implemented the countermeasures against common attacks, as well as techniques related to performance and search engine optimization

Hospital Waiting Time System
GitHub Link

- A single-page web application built with the popular MERN stack, which checks the accident and emergency waiting times of different hospitals in Hong Kong
- Developed this project in Javascript, used open API to obtain the waiting time of hospitals and display the hospitals on a map

Quick Calculation Game with Skills
GitHub Link

- An electronic game on a Cortex-M3 system, which is a quick calculation game with skills enabled
- Developed this project in C and demonstrated the software design patterns learned in other courses

Software Prototype for a Single-player PC Pokemon Game
GitHub Link

- A prototype for an offline, single-player Pokemon game on desktop PC, which support navigation, capture, gym battle, and manage Pokemon features
- Developed this project in C# with WPF

Data Mining Project
GitHub Link

- A competition on solving 2 data mining problems, one is related to insurance selling, another is related to customer behaviour prediction.
- Developed this project in Python and used different machine learning package such as Scikit-learn
- Won the best project award runner-up in the competition

COMPETITIONS

The 15th Citi Financial Innovation Application Competition | Hong Kong
Finalist (Top 20 out of 80 teams) | Jun 2019 - Nov 2019

- Utilized machine learning techniques to create a green bond index
- Constructed a web prototype to demonstrate a user-friendly and integrated platform
- Analyzed the business model on the service provided

EXTRA-CURRICULAR ACTIVITIES

Animation and Comic Society, the Chinese University of Hong Kong | Hong Kong
General Affairs Coordinator | Feb 2019 – Mar 2020

- Provided regular services like book borrowing and purchasing to thousands of members of the society
- Organized various seminars and competitions

Bridge Club, the Chinese University of Hong Kong | Hong Kong
Treasurer | Jan 2019 – Dec 2019

- Hosted an MP Pair Competition with 60 participants
- Applied student activity fund on behalf of the student association

SKILLS

Languages	Native in Cantonese, Fluent in English
Programming Languages	C, C#, Java, JavaScript, Julia, PHP, Python
Familiar Libraries	NumPy, Pandas, Scikit-learn, XGBoost, Pytorch
Frameworks	React.js, Node.js, Express, Mongoose
Tools	Microsoft Office, Visual Studio, Android Studio, Git, AWS