

EDUCATION

- **The University of Hong Kong** **Hong Kong, China**
Bachelor of Science in Actuarial Science; GPA: 3.77/4.3 *Aug. 2016 – Aug. 2020*
- **Northwestern University** **Evanston, US**
Exchange Student in Computer Science; Winter GPA: 4.0/4.0; Spring GPA: Pass *Jan. 2020 – June. 2020*
- **Swiss Federal Institute of Technology Zurich (ETH zurich)** **Zurich, Switzerland**
Visiting Student in Computer Science; GPA 5.25/6 *Sep. 2019 – Feb. 2020*
- **Peking University** **Beijing, China**
Globex Summer Engineer Program; on Robotics & Economy Engineering *July. 2019 – Aug. 2019*
- **ENSAI** **Rennes, France**
Short-term Exchange on Statistics *June. 2019 – July. 2019*

PUBLICATION

- **UPA: An Automated, Accurate and Efficient Differentially Private Big-data Mining System.:**
Tsz On Li, Jianyu Jiang, Ji Qi, Chi Chiu So, **Jiacheng Ma**, Xusheng Chen, Tianxiang Shen, Heming Cui, Yuxuan Wang, and Peng Wang. (DSN'2020)

EXPERIENCE

- **Seasonalife** **Hong Kong, China**
Technology Analyst *Jun. 2018 – Aug. 2018*
 - **REST API:**
REST api development in Django as backend.
 - **React JS:**
React front end development on various aspect. Includes Web application development for product in AIA which aggregates insurance information from the web and provides reasonable comparison.
 - **OCR:**
OCR development for internal usage on identity identification.
 - **Company Website:**
<https://www.seasonalife.com/>
- **University Summer Program** **Bohol, The Philippines**
Business Consulting Service *Aug. 2018*
 - **Consulting:**
Provides consulting service for local business in Jagna, Bohol. The business is mainly a local resort company.
- **Coherent Capital** **Hong Kong, China**
Technology Analyst *Jan. 2019 – Mar. 2019*
 - **Insurance Technology:**
Coherent capital is a consulting firm in insurance technologies. I work on various projects during internship, includes pre warning system for incidents, automatically filing insurance application form, reverse engineering on some program.
 - **Company Website:**
<https://www.coherent.com.hk/>
- **Education Without Barriers (NGO)** **Hong Kong, China**
Software Engineer *Feb. 2019 – Jun. 2019*
 - **EWB:**
a NGO established to enhance child education in less developed area in China.
 - **Web development:**
Constructed the official website for EWB.
 - **Company Website:**
<https://educationwithoutbarriers.org/>

- **The University of Hong Kong: Engineering Faculty**

Research Assistant

Hong Kong, China

Jan.2019 – June.2019

- **Project:**
A project to monitor and analyse primary school kids behavior under different situation, under coordination of Engineer Faculty and Education Faculty at HKU.
- **Android App:**
An android app for taking survey from user.
- **Fibit App:**
A fitbit app to monitor user movement and status;coordinate with android app to transfer and store data.
- **Bioinformatics:**
First experience in bioinformatics on variant calling tool.

- **The University of Hong Kong: Distributed System Lab**

Research Assistant

Hong Kong, China

July.2019 – Sep.2019

- **Data privacy in big data:**
Differential privacy in big data workloads.
- **SGX:**
Intel Software Guard Extensions (SGX) is a set of security-related instruction codes that are built into Intel CPUs. I work on application using SGX to enforce security and privacy
- **PDE:**
Boost deep learning workloads using intrinsic property of Partial differential equation. Under investigation phase.
- **Federated Learning:**
Privacy issue arises from federated learning. Federated learning is a machine learning technique to collaborate training on decentralised edge devices.

PREVIOUS PROJECTS IN COMPUTER SCIENCE

- **Kernel low-level software development:** I ported OpenMP runtime to an aerokernel (nautilus), implemented function stub (POSIX| interface, PTHREADS| interface) in kernel, and run experiment assessing performance. see Project Report Link for full description.
- **Game Design In Unity:** I developed a 3D third person shooting game in Unity with functioning enemy AI, good weapon system and good combat effect. The game is based on Unity and got almost full score in the course. Due to optimization problem, we developed another light weight version.
A link for our tailor: <https://www.youtube.com/watch?v=TRKMEBuXCXU>.
- **Compiler Design:** I implemented a compiler for self-designed simple language (Class not supported). A tailored cpu simulator to execute the assembly is associated with the compiled code. The project got a full score.
- **Computer Architecture:** I built a memory system simulator with cpu pipeline, instruction cache, l1, l2 data cache and Dram. The simulation is based on cycle. I implemented various state of the art memory controller design on state of the art memory system simulator (Ramulator). I also built a prefetcher with cutting-edge prefetching policies in simulators.
- **Java Project:** I built a p2p network following standard p2p framework to download a picture.
- **System Security Project:** I exercised on complicated buffer overflow attack, function call chaining and reverse engineering.
- **Web Security Project:** We, in a group, built a secure certificate authority(CA) system for virtual company, which includes all CA functionality, backup system, logging system, secure database and servers. We followed the principle in Open Web Application Security Project (OWASP). The system is secure for many well-known attacks (SQL injection, XSS, CSRF, etc.)
- **Operating System Project:** I built simulated CPU scheduler, simple GPU driver in a kernel, and Paging mechanisms for a kernel
- **Parallel programming:** I built several parallel algorithms in OpenMP and OpenMPI with multi-cores and cross machine
- **Machine learning:** I built models include Desion Tree, KNN(Collaborative filtering), Clustering(GMM,kmeans), Gradient decent, RL, simple DNN in numpy.

AWARD

- **Song QingLing Foundation** **China**
2016-2020
ZhiYuan Scholarship
- **University Award** **Hong Kong, China**
2016-2018
Undergraduate Student
 - **Dean's Honor List:**
Students who are within the top 10% of their class are considered for inclusion within the Dean's Honours List every year.
 - **Statistics and Actuarial Science Scholarship :**
Scholarships of HK\$4,000 each awarded to four students in every grade(e.g. year1,2,3,4).
- **1st Runner Up in Grand Global Challenge Summit 2019** **London, UK**
Sep.2019
Hong Kong joint team from 4 universities
 - **Grand Global Challenge Summit 2019:**
Held in London, Co-organised by Chinese Academy of Engineering, Royal Academy of Engineering, National Academy of Engineering. Aims to convene inspirational world leaders with the next generation of engineers and changemakers to build creative collaborations to help solve the grand challenges facing our future world. The overall theme is Engineering in an unpredictable world
 - **Final Pitch:**
After intra-country competition, 5 teams each from US, UK and China had a final pitch during the summit and our team got 1st runner up with 7500 pound award.
 - **Project:**
"ClearBot": swarms of self-navigating (AI-visioned), self charging and decentralized robots clearing floating trash on sea.
 - **News Report Links:** South China Morning Post:"Robot marine plastic pollution collector Hong Kong students invented offers a cheap solution to clear rubbish-choked coasts".<https://www.scmp.com/lifestyle/article/3039950/robot-marine-plastic-pollution-collector-hong-kong-students-invented>

RELATED COURSES AND SKILLS

- **Actuarial Science and Statistics:** Risk Analysis; Statistics; Financial Mathematics; Random Process; Contingencies; Partial Differential Equation; Financial Economics; Energy Economics; Finance; Accounting; Data Mining; Derivatives;
- **Computer Science:** Algorithm design; Game design; Machine learning; Compiling technique; Computer Network; Bioinformatics; Distributed system; Robotics; System Security; Wireless Communication Security; Network Security; Parallel computing;
- **Language:** Chinese; English; Cantonese
- **Programming Language:** C; C++; C; java; jsx; js; html; php; python; scala; SAS; R; Shell; Assembly; CUDA