Aaron Tsz-Wang Ko

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EDUCATION

Imperial College London **London, UK**
MEng Electronics and Information Engineering (Upper Second Class) Oct 2019 – Present
Modules taken: Computer Architectures (MU0, MIPS), Discrete Maths and Algorithms, Software Systems, Compilers, Control Systems, Signal Processing

Diocesan Boys School **Hong Kong**
International Baccalaureate Sep 2016 – Jul 2019
Grades: 41/45 (Top 2% Globally) (Physics HL 7/7, Math HL 7/7, Chemistry 7/7)

WORK EXPERIENCE

GDS Services Ltd *(World's leading 3rd party data-centre provider)* **Shang Hai, China**
Intern Software Engineer Jul 2021 – Sept 2021

- Automated SLA adherence checks with an algorithm based on statistical analysis of existing database
- Prototyped websites and applications with improved UI to streamline incident report processes

Earth Product China Limited *(Leader in advanced infrastructural testing solutions)* **Hong Kong**
Intern Electronics Engineer Jul 2019 – Sept 2019

- Configured Geo-SiG accelerometer for deployment with Putty using proprietary programming language
- Streamlined accuracy analysis of Cross-Hole Analyzer by filtering 99% of logged data using C++

Origami Group Limited *(Start-up specialized in bone conduction technology)* **Hong Kong**
Intern Electronics Engineer Jul 2018 – Sept 2018 / Oct 2020 – Dec 2020

- Conducted performance tests on bone conduction telecom product (OFLO) and smart ring (ORII)
- Increased battery life of OFLO by 50% through discovery of unnecessary CPU usage in logged data
- On-field debugging and configuring OFLO for deployment at Luxury Hotel the HARI Hong Kong
- Optimized power efficiency of ORII by reconfiguring actuator towards the axis of sound propagation

PROJECTS

Mars Rover *Jun 2021 – Jul 2021*

- Collaborated with electrical engineering students to build an autonomous Mars exploration rover
- Developed the vision to detect surrounding-coloured objects and provide coordinates to the rover
- Applied gaussian filter in hardware using Verilog, and RGB to HSV conversion in software using C

C Compiler (MIPS GCC) *Jun 2021 – Jul 2021*

- Designed a C-to-MIPS compiler that supports basic arithmetic operations, control flow, and stacks
- Utilised Yacc & Bison to lex and parse program syntax, and C++ to generate file with MIPS instructions

MIPS Instruction Set Architecture (ISA) Computer

- Designed a MIPS ISA Computer that supports over 100 Register, Immediate and Jump Instructions
- Verified implemented instructions with automated testing procedure with over 100 test cases using bash
- Dynamic testing scenarios created using C++ to check behaviour of computer over various scenarios

Four-person multiplayer game server

- Collaborated with Software engineering students to implement a 4-player gamer server on AWS
- Programmed Intel Nios-II Lite (FPGA) as controller using Verilog and filtered erratic inputs using C

EXTRA CURRICULARS

Imperial College Public Awareness and Social Service Society **Imperial College London**
President

- Hosted mentorship program for over 200 participants to connect alumni and current students of ICL
- Raised £1,000 for World Vision with a fundraiser with 200+ participants from 20+ UK universities

SKILLS & INTERESTS

Languages: Fluent in English; Native in Chinese (Cantonese & Mandarin)
Technical Skills: C++, Verilog, Python, Bash, SQL, Yacc & Bison, Onshape, Axure RP, Adobe Premier Pro
Interests: Violin (Performed at Czechia, Vianden), Erhu (Leader of School Chinese Orchestra)