

PERSONAL PARTICULARS

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EDUCATION

Hong Kong University of Science and Technology (HKUST)

BEng in Computer Engineering

Hong Kong

Sep 2014 - Sep 2018

Universitat Politècnica de València (UPV)

Exchange student in Computer Engineering

Valencia, Spain

Feb 2017 - Jun 2017

HONORS AND AWARDS

The 10th NXP® Freescale Cup Intelligent Car Competition 2015

Merit award

- Designed and built a firmware for Arm® Cortex®-M4 Kinetis K60 MCU to control a full automated car to run on a track
- Used inductors to sense the magnetic field generated by the single AC powered wire on the middle of the track
- Applied P controller for turning and PI controller for speed control
- Designed a control system and algorithm to use the voltage induced by inductors on the car as input to control the car to complete the track with crosses and sharp turns
- Optimized the firmware and fine-tune the car with my own grapher (Google extension)

Xiamen, China

Jul 2015

The 11th NXP® Freescale Cup Intelligent Car Competition 2016

Second class award

- Designed and built a firmware for Arm® Cortex®-M4 Kinetis K60 MCU to control a two-wheeled full automated car to run on a track
 - Use inductors to sense the magnetic field generated by the single AC powered wire on the middle of the track
 - Designed a control system and algorithm to use the voltage induced by inductors on the car as input to control the car to complete the track with crosses and turns
 - Applied PD controller for angle control using the result from complementary filter on IMU output
 - Implemented Fuzzy Logic PD controller for turning
 - Designed algorithm to control car speed while keeping the inverted pendulum system stable
 - Optimized the firmware and fine-tune the car with my own grapher (Google extension)
- (Watch [Video](#) here)

Changsha, China

Jul 2016

Imagine Cup 2017 by Microsoft Hong Kong Ltd.

Best UI Award

- Built a chat-bot system for interview using natural language processing
- One of Elite 8 teams

Hong Kong

May 2017

EXPERIENCE

SoarStack Tech Solutions Ltd.

Full Stack Engineer

- Engineered modern highly-available, scalable international commercial platforms for companies with Node.js, React powered by AWS (such as RDS, EC2)
- Efficiently deployed and integrated software and wrote integration / deployment bash scripts, dockerfile and docker compose file
- Designed, built and maintained modules for company internal purchase system with Java, Apache MyFaces and Oracle Database

Hong Kong

Apr 2019 - Jun 2022

BHL Technology Ltd.**Embedded Software Engineer**

- Engineered a system to control robot running on Robot Operating System(ROS)
- Built modules with multiple programming languages (Python, C, Node.js)
- Programmed an embedded application for Cortex-M3 core device to control motors/servos
- Built user interface with Http and WebSocket server using React and ExpressJs for real time monitoring
- Designed and implemented protocol on communication via CAN bus
- Applied ROS SLAM module and Deep Learning models in Computer Vision
- Conducted Hardware testing

Hong Kong

Aug 2018 – Mar 2019

ARTRO Digital Ltd.**Freelance Web developer**

- Built company websites with React and Node.js

Hong Kong

Jun 2017 - Apr 2018

USThing**Co-founder**

- USThing is a team made up of passionate and talented students who work towards the continual betterment of the app and the HKUST student community. Mainly provide iOS and Android applications to let HKUST students have easy access to University's basic services
- Major Android developer in early stage

Hong Kong

Aug 2016

The Hong Kong University of Science and Technology**HKUST Robotics Team Member & Mentor**

- Represented HKUST in 2014-2015 National Freescale SmartCar (China)
- Sub-team leader who collaborates with 15 teammates

Hong Kong

Sep 2014 - Jul 2016

SKILLS

Languages	Cantonese	(Native)
	English	(Proficient)
	Mandarin	(Proficient)
Programming Languages & Libraries	General-purpose:	C/C++, Python, Java, VisualBasic, VisualBasic.Net(VB.NET), Rust
	Web (Backend):	Node.js, Typescript, PHP
	Web (Frontend):	Javascript, jQuery, CSS, Bootstrap, HTML, React
	Database:	MySQL, MongoDB, InfluxDB, Oracle Database
	Unix:	Bash
	Cloud:	AWS
	Message Queue:	RabbitMQ
Hardware Engineering	Other:	Git, OpenCV, Robot Operating System(ROS), Docker, Docker Compose
	Control System Design, Embedded System Design, PCB Design (Hand-on), Soldering, Microcontroller Programming (STM32, STM8, Freescale Kinetis, AVR)	
Machine Learning Tools	TensorFlow, Keras, PyTorch	