



KOAY XIAN CONG

ELECTRICAL & ELECTRONICS
ENGINEER

PROFILE

Former Junior AI Engineer at SkyMind and currently pursuing Bachelor of Electrical and Electronics Engineering at University of Nottingham, Malaysia. I'm passionate and experienced in both hardware and software development including PCB design, AI model development and deployment in microprocessor, firmware development with Real Time Operating System, prototype design and data visualization for IoT.

CONTACT

familykoay@gmail.com

+6011-15051827

Penang, Malaysia

<https://www.linkedin.com/in/xiancong8302>

<https://xcdiary.wordpress.com>

<https://github.com/xiancong>

EXPERIENCE

JUNIOR AI ENGINEER AT SKYMIND

APR 2021 – SEPT 2021

- ❖ Developed AI Model to detect plant disease, classify plant condition and monitoring plant health.
- ❖ Experienced in data preparation, annotation, and computer vision AI (classification, object detection, image segmentation)
- ❖ Experienced in data pre-processing and data annotation for machine learning.
- ❖ Applied AI Model in Raspberry Pi.
- ❖ Data processing and visualization using Thingsboard.
- ❖ Developed firmware for nRF chip with Zephyr RTOS.
- ❖ Drew schematics and layout for PCB to be deployed in production with KiCAD.
- ❖ Experienced in selection of hardware components to be used in production.
- ❖ Experienced in utilizing hardware tools to monitor signals.
- ❖ Experienced in Scrum Project Management.

EDUCATION

BACHELOR OF ENGINEERING IN ELECTRICAL AND ELECTRONICS ENGINEERING

UNIVERSITY OF NOTTINGHAM, MALAYSIA

2021 - PRESENT

- ❖ Member of IEM (The Institution of Engineers, Malaysia)
- ❖ Member of IET (Institution of Engineering and Technology)
- ❖ Member of Robotics Society in University of Nottingham Malaysia
- ❖ Took Additional Module for Nottingham Advantage Award (Introduction to Security and Investment)
- ❖ Developed Tic Tac Toe game using C language with Reactionary Planning Algorithm

APPLIED DEEP LEARNING ENGINEER

FORWARD SCHOOL, PENANG MALAYSIA

11/2020 – 1/2021

- ❖ Innovated Acne Classifier using deep learning architecture that analyzes user's acne status.
- ❖ Awarded Most Outstanding Award.

AUSTRALIAN MATRICULATION

SUNWAY COLLEGE, KUALA LUMPUR MALAYSIA

01/2020 – 11/2020

- ❖ Obtained Full Sunway Special Scholarship for Australian Matriculation Programme.

HARDWARE SKILLS

- nRF Chips
- Jetson Nano
- Raspberry Pi
- Arduino

SOFTWARE SKILLS

- Zephyr RTOS (Firmware)
- Anaconda
- MySQL
- Thingsboard
- Jupyter Notebook
- Jetbrain Tools
- VSCode
- Emacs
- gcc & g++
- Solidworks
- AutoCAD
- KiCAD
- Vim
- Weight & Bias (ML development)
- Adobe Creative Tools
- LTSpice
- PLECS

PROGRAMMING LANGUAGES

- C
- C++
- Python
- Java
- Matlab

TOOLS

- Oscilloscope
- Power Supply

- ❖ Subject taken: Chemistry, Physics, Math Methods, Math Specialists, English as Additional Language or Dialect.
- ❖ Obtained ATAR 92.95 (Top 7 Percentile in the world).
- ❖ Obtained High Achiever Awards.

CHUNG LING HIGH SCHOOL

PENANG MALAYSIA

01/2015 – 12/2019

- ❖ Malaysian Certificate of Education (9A,1B).
- ❖ Awarded Outstanding Achiever in Co-curricular Activities by the Minister of Education.

SCIENCE AND RESEARCH EXPERIENCES

ARTIFICIAL INTELLIGENCE, MACHINE LEARNING & DEEP LEARNING

2021 - PRESENT

- ❖ Innovated Acne Classifier using VGG-16 architecture and obtained Most Outstanding Awards.
- ❖ Developed Plant Disease Detection using YOLOv5 Object Detection Model.
- ❖ Developed Plant Classification Model.
- ❖ Developed Lettuce Segmentation Model using Detectron2 Model.
- ❖ Experienced in developing custom neural network.
- ❖ Experienced in tuning Model using various dev tools

2ND BELT AND ROAD TEENAGER MAKER CAMP 2018, ORGANIZED BY CHINA ASSOCIATION OF SCIENCE & TECHNOLOGY

BEIJING, CHINA

11/2018

- ❖ Awarded Best Maker.
- ❖ Director of the project and led a group of 7 students from different countries.

KANGAROO MATH COMPETITION 2020, ORGANIZED BY KANGAROO MATH MALAYSIA

9/2020

- ❖ Won Gold Medal.
- ❖ Advance Maths Challenge.

MALAYSIAN NATIONAL CHEMISTRY QUIZ 2019, ORGANIZED BY INSTITUT KIMIA MALAYSIA

7/2019

- ❖ Won High Distinction in Chemistry related quiz.

INTI STEM EXPLORATION 2019, ORGANIZED BY INTI INTERNATIONAL COLLEGE

02/2019

-
- Signal Generator
 - Multimeter

OPERATING SYSTEM

- Linux
- Windows

ADDITIONAL SKILLS

- Soldering
- Signals Analysis
- PCB Design
- Prototype Design

LANGUAGES

- Mandarin
- English
- Malay

- ❖ Won Champion.
- ❖ Web designed practical, solved scientific-related task using scientific general knowledge, learnt non-curricular science knowledge through the internet and university textbooks.

NATIONAL SCIENCE CHALLENGE 2018, ORGANIZED BY ACADEMY OF SCIENCES MALAYSIA

07/2018

- ❖ Won Prime Minister's Challenge Trophy 2nd Runner Up.
- ❖ Scientific general knowledge buzzer quiz challenge; learnt non-curricular science knowledge through the internet and university textbooks.

SIRIM INVENTION, INNOVATION & TECHNOLOGY EXPO 2018, ORGANIZED BY SIRIM

04/2018

- ❖ Won Gold Medal.
- ❖ Project Hardware Engineer tasked in researching, purchasing, developing and test running the sensors and the embedded system.
- ❖ Innovated "Swalk Stick" using embedded system (Arduino) with various sensors; Innovated user's fall detection using gyro sensors, buzz to notify and transmit a message through GSM automatically with a precise location using GPS to user's personal assistant; Innovated object detection with ultrasonic wave detection and vibrate the walking stick handle; Light up in the dark automatically.
- ❖ Involved IoT to connect sensors with internet to log user's info.

PETRONAS SOCIETY OF PETROLEUM ENGINEERS NATIONAL OIL RIG COMPETITION 2018, ORGANIZED BY UNIVERSITY TECHNOLOGY PETRONAS

07/2018

- ❖ Won 1st Runner Up.
- ❖ Learnt to build a prototype of an oil rig that supports the most weight using recyclable materials and present the feasibility and improvements of the new model.
- ❖ Conducted case study and solved quiz regarding oil and gas industry.

STEM INVENTION & INNOVATION COMPETITION 2018, ORGANIZED BY MINISTRY OF EDUCATION MALAYSIA

08/2018

- ❖ Won 1st Runner Up.
- ❖ Further development of "Swalk Stick" and present it to the Ministry of Education Malaysia.

YOUNG INNOVATORS CHALLENGE 2017, ORGANIZED BY MINISTRY OF EDUCATION MALAYSIA

07/2017

- ❖ Won Champion.
- ❖ Develop 1st Gen "Swalk Stick" and present it to the Ministry of Education Malaysia.
- ❖ Obtained Excellent and Best Presenter during the workshop.

**CARNIVAL SCIENCE SOLAR CAR & SOLAR COOKER COMPETITION,
ORGANIZED BY CHUNG LING HIGH SCHOOL**

10/2016

- ❖ Won 2nd Place.
- ❖ Built a solar cooker & car with limited materials provided that can obtain the highest temperature.

COMMUNICATION & INTERPERSONAL SKILLS

**INTERNATIONAL SCIENCE AND TECHNOLOGY SYMPOSIUM FOR
YOUTH PRESENTER**

CHEONAN, SOUTH KOREA

06/2017; 07/2018

- ❖ Presenter of own innovation regarding Smart Blind to international teachers and students from China, Korea, Japan, Singapore and China in Penang, Malaysia (2017) and Cheonan-Si, South Korea (2018).

**PRESENTER DURING THE VISIT OF THE ROYAL PRINCESS FROM
THAILAND, MAHA CHAKRI SIRINDHORN & THE AMBASSADOR OF
HUNGARY TO MALAYSIA, PETRA PONEVACS-PANA**

07/2018; 08/2018

LEADERSHIP, ORGANISATION AND TEAMWORK

PRESIDENT OF I-CREATORZ, CHUNG LING HIGH SCHOOL

06/2018 – 07/2019

- ❖ Organizing chairperson of 1st CreatorZ Day 2018.
- ❖ Recruited talented individuals and ran activities.
- ❖ Led and planned for several projects such as Digital Clock, RANKSYS, Star Wars Hologram project which are all funded by CLHS Alumni.
- ❖ Led members to visit Pentamaster & Mini-Circuits.
- ❖ Collaborate with Penang Science Cluster in organizing activities to members.

**ORGANIZING CHAIRPERSON OF ELECTRONICS WORKSHOP AT
PENANG INTERNATIONAL SCIENCE FAIR 2018**

11/2018

- ❖ Coached and advised idea on workshop.

**ORGANIZER OF MINI-CIRCUIT WORKSHOP AT PENANG
INTERNATIONAL SCIENCE FAIR 2016**

11/2016

- ❖ Participated, planned, and contributed in presenting STEM ideas to the public, funded by Mini-Circuit.