

# EUGENE HUANG XIN ZHE



## About Me

**Currently a Year 4 university student (JPA Scholar) looking for a Full-Time Job**



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[Portfolio Website Link](#)



Lot 6937, Desa Pujut, Bandar Baru Permyjaya, 98000, Miri, Sarawak

## LANGUAGE

- English
- Chinese
- Bahasa Malaysia

## EXPERTISE

- Simulation Tools: LTSpice, PLECS, MATLAB, SIMULINK, FEMM
- Programming Languages: C, C++, Python, HTML, CSS, Javascript
- Microcontrollers: Arduino Uno, Raspberry Pi, STM32
- MERN Stack
- TensorFlow, Pytorch

Year 4 M.ENG. HONS ELECTRICAL AND ELECTRONICS ENGINEERING STUDENT

## OBJECTIVE

- Acquiring knowledge and experience from industry professionals, contribute to the company

## EDUCATION

- **University of Nottingham Malaysia**

Foundation in Engineering (completed)

M.Eng Electrical and Electronic Engineering  
(September 2022- May 2026)

- **SMK Chung Hua (CF) Miri**

Sijil Pelajaran Malaysia (SPM)

## ACHIEVEMENTS

- SPM - 10A+                      • Year 3 - 81 %
- Foundation - 90 %

## PROJECTS

- **Photodetector-guided Robot Vehicle (2022)**

Constructing a line following, multi-purpose robot car using self designed IR sensors, Ultrasonic sensor, gyroscope accelerometer, Bluetooth Serial Transceiver and encoder.

- **Smart Vision Robot Vehicle (2023)**

Constructing a 4WD robot car with the ability to follow coloured lines, detect shapes and signs and carry out face recognition using Raspberry Pi 4, Python, OpenCV, Raspberry Pi Camera module and L298N Motor driver module.

- **Switch Mode Power Supply Design Project (2024)**

Designing PWM circuit, rectification circuit and two-switched forward converter involving PCB design and construction, PLECS simulation.

- Autodesk inventor, Microsoft Word, Excel, PowerPoint,

## AWARDS

- Nottingham Advantage Award
- Anugerah Premier Sarawak (Science SPM 2020 Category)
- Anugerah Pengetua Akademik
- Academic Star Award
- Co-curricular Superstar Award
- Service Superstar Award
- Overall Most Outstanding Award

## EXTRA CURRICULAR ACTIVITIES

### University of Nottingham Malaysia (2021-2023)

- Member of University Robotics Society
- Member of University Badminton Club
- Member of IEEE, IEM

### • Robot Car Maze Competition (Champion)

Arduino Robot car is programmed to do mapping of the entire maze using depth first search algorithm with ultrasonic sensor, then using breadth first search to find the shortest path, and finally executing path execution using gyroscope and encoder.

### SMK Chung Hua (CF) Miri

- IMU Science Discovery Challenge - TOP 170
- Solar Vehicle Challenge - Champion (District level)
- Brain Bee Challenge - Participation
- Executive committee of School Concert Secretariat Department
- Secretariat Department Prefect
- Editorial Board of School Magazine - Editor of Graphics
- Feng Jia Cup Calligraphy Competition (state level) - Champion
- Taiwan Calligraphy Competition - Third place
- Young Scientist Competition - Champion
- Traffic Game Club - Vice President

### • Doppler Radar based Speed Detector Project (2024)

Designing bandpass filter, detecting speed using STM32 ADC and comparator, using microwave sensor module, LCD keypad shield, oscilloscope, function generator and STM32 microcontroller.

### • Wild Life Detection Project (2024 - present)

Develop real time object detection models for vision and audio using Tensorflow, build MERN stack Website, interfacing raspberry pi 5 microcontroller with website database, while utilizing solar power for system operations.

### • Air Selangor Hackathon (Group Project)

Website development for water meter inventory management system, with forecasting water meter demand features and meter movement tracking using MongoDB, MySQL, Node Js, Express Js and Vue Js.

## EXPERIENCE

### ViTrox Technologies Sdn. Bhd. ABI-AXI Department R&D Intern

- Develop turing imaging simulator with PyQt5
- Integrating Strobe Mode Camera hardware for backend to frontend using Java and JavaFx
- Motion Compensation Algorithm research, implementation and testing using Transformation Matrices and Best Fit Numerical Methods with OpenCV and Python
- Data Collection and Analysis of Gantry Correction testing on Area Scan X-Ray Inspection System
- Data Analysis and Plotting automation using Python

### Huawei Technologies Sdn. Bhd. GSRC Department - Core Network + TMO Intern

#### Core Network

- Learn core network fundamentals, VoLTE registration, attach and call flow process between mobile operators subscribers, IP networking basics.
- Learn IP networking protocols, architecture, internet encryption methods.

#### Technical Management Office (TMO)

- Develop automation tools using python and internal scheduler tool to improve productivity of processes.
- Develop summary dashboards using DataFab, Datalink and GDE platform with SQL as the backend to filter and extract data from database.
- Develop API calling script to improve efficiency of tools.