EUGENE HUANG XIN ZHE

Year 3 M.ENG. HONS ELECTRICAL AND ELECTRONICS ENGINEERING STUDENT

About Me

Currently a Year 3 university student (JPA Scholar) looking for a 3-months internship (1st June 2025 - 31st August 2025)

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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
- Autodesk inventor, Microsoft Word, Excel, PowerPoint,

OBJECTIVE

- Acquiring knowledge and experience from industry professionals.
- Meeting the university course criteria for a minimum 12-week industrial training.

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+
- Foundation - 90 %
- Year 1 - 84 %
- Year 2 - 80 %
- Year 3 - 86 % (first semester)

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.

AWARDS

- Anugerah Premier Sarawak (Science SPM 2020 Category)
- Anugerah Pengetua Akademik
- Academic Star Award
- Co-curriular 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

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
- Conforming Schools Calligraphy Competition (State Level) - Champion
- Taiwan Calligraphy Competition - Third place
- Young Scientist Competition - Champion
- Traffic Game Club - Vice President

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

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

- **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.

- **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.

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