KAI JIE CHOW

kj1chow@gmail.com | (+44) 07716 288854 | LinkedIn
Wessex Lane, Southampton, SO18 2NU

PROFILE

Final Year Mechanical Engineering student with solid programming foundation and aspiration to bring automation/software developments upon engineering applicable platforms.

EDUCATION

Sep 2017 – Present

MEng Mechanical Engineering and Mechatronics, University of Southampton.

- **Current Grades:** 81.21% (1st Class Honors equivalent)
- **Final Year Project: 100W pico-scaled Tesla Turbine for £100**
  Design and numerical analysis of a pico-scaled Tesla Turbine for rural areas applications.
- **Dissertation: Optimal Control of Low-Order Transitional Flow Models**
  Numerical formulation and optimisation of a Plane-Couette shear flow model for drag reduction.
- **Relevant Modules:**
  [Automotive Propulsion – 75%] [Heat Transfer Applications – 91%] [CFD Applications – 74%] [Electronics & Control – 89%] [Thermodynamics – 94%] [Adv. PDE – 88%] [Fluid Mechanics – 91%] [Control & Instrumentation – 82%]

Jan 2016 – Jul 2017

GCE Advanced Level, Sunway College, Malaysia.

- **Grades:** 4A*
- **Modules:**
  [Math - 96%] [Further Math - 92%] [Chemistry - 93%] [Physics - 90%]

WORK EXPERIENCES

Jun 2020 – Sep 2020

Digital Transformation Team Intern, Sunway Construction Group Bhd, Malaysia.

- Developed a Python Telegram Chatbot system for quick and efficient safety inspection process.
- Formulated the backend functionalities using Flask framework, linking the chatbot to company's OneDrive database via Azure API.
- Doubled site workers' engagement via gamification techniques implementation.
- Constructed a web-based Autodesk Loader application with AR/VR and GPS features incorporated for better 3D experience.

Jun 2018 – Oct 2018

Research Intern: Diesel Engine Exergy Analysis, University of Southampton, Malaysia.

- Completed an internship in collaboration with Shanghai Jiao Tong University. Involved in analysing Yanmar L70 engine data and constructing its corresponding Exergy model.
- Represented University of Southampton Malaysia to present at the SEGT 2018 international conference.
- Published a research paper titled "Exergy-based Analysis of Diesel Engine when fuelled with Fossil Diesel and Palm Methyl Ester (PME)".

OTHER EXPERIENCES

Jan 2021 **URL Shortener Webpage Development**

- Led a team in hosting a URL handling web framework using Flask and Postgres.
- Link: https://spshurl.herokuapp.com/

Oct 2020 **TensorFlow Developer Specialisation, Deeplearning.AI Coursera**

Jul 2019 **SJTU "Green for Life" LCC International Summer School, Shanghai, China.**

- Attended a 10-day summer school programme on the topic of sustainable and renewable energy.

AWARDS AND ACHIEVEMENTS

Apr 2021 **Grand Prize Winner, Big Ideas Competition 2021, United Kingdom.**

- Proposed a design idea with the objective of alleviating water crisis in Africa via smart integration of solar and electrostatic fog collection technologies.

Sep 2020 **National Runner-Up, James Dyson Award, United Kingdom.**

- Worked with a team on a sustainable design idea, OFlow that incorporates biofiltering technologies to filter microplastics in wastewater treatment.
- Link: https://www.jamesdysonaward.org/2020/project/oflow/

Dec 2019 **Finalist, SparkCognition CMI Machine Learning Hackathon, United Kingdom.**

- Formulated a time-series binary classification model that predict trends in Steam Games' popularity.

Mar 2018 **Audience Award, RSC Twitter Poster Conference, United Kingdom.**

- Built an educational Escape Room to introduce Creative and Playful Learning (CPL) concept into education, organised by Royal Society of Chemistry, UK.

Aug 2017 **Top Achiever Scholarship Award, University of Southampton, Malaysia.**

COMPUTER LITERACY

Programming MATLAB & Simulink, Python, C++ 17, JavaScript, C, Julia, SQL, Bash, Git, Node.js

Simulation ANSYS FLUENT, SolidWorks, Arduino, OpenFOAM, COMSOL, Autodesk

Others MS Office Suite, MS SQL Server, MS Visual Studio

LINGUISTIC

English **Spoken:** 10 **Written:** 10 **Comprehension:** 10

Mandarin **Spoken:** 10 **Written:** 10 **Comprehension:** 10

Malay **Spoken:** 8 **Written:** 10 **Comprehension:** 10

REFEREES

{ Available Upon Request }