DESMOND LING ZE YEW

AUTOMOTIVE ENGINEER

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OBJECTIVE

Enthusiastic and novice Automotive Engineer undergraduate with a keen interest in AI and autonomous vehicle technology. Possesses a strong foundation in mechanical engineering principles and a passion for integrating cutting-edge AI solutions to enhance automotive safety and efficiency. Committed to applying my knowledge and innovative ideas to contribute to the development of intelligent, self-driving vehicles.

SKILLS & ABILITIES

Automotive Engineering, Robot Operating System (ROS), Simultaneous Localization and Mapping (SLAM) Algorithm, Vehicle Dynamics, Electronics, Microcontroller, C++, Light Detection and Ranging (LiDAR), Internal Combustion Engine (ICE), Electric Vehicle (EV), Mandarin and German

EXPERIENCE

Aug 2022 – Jan 2023

Robert Bosch (M) Sdn. Bhd, Bayan Lepas, Penang
Internship

Fabricated prototypes of car infotainment systems tailored to customer requirements.

Identified and resolved issues during the prototype assembly process.

Communicated troubleshooting outcomes and solutions to the Supervisor.

Aug 2019 – Jan 2020

Alliance Steel (M) Sdn. Bhd, MCKIP, Kuantan
Central Control Operator

Monitored and managed central control operations for steel production.

Acquired knowledge of industrial steel manufacturing processes.

Enhanced language skills and cross-cultural communication through translation duties.

EDUCATION

2020 – 2024

B. ENG (HONS.) AUTOMOTIVE ENGINEERING (COLLABORATION PROGRAMME WITH HKA, GERMANY)
Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA)

2017 – 2020

DIPLOMA IN MECHANICAL ENGINEERING
Universiti Malaysia Pahang (UMP)

PROJECTS INVOLVED

Sep 2023 – Feb 2024 **Analysis on 2D LiDAR Mapping for Mobile Robot on the Sharp Edges Area**
Final Year Project (FYP)

Gained insights into LiDAR self-motion distortions' impact on different SLAM algorithms, and thus contributing to robotic mapping and navigation.

Gained practical experience with ROS, developed skills in robot simulation, visualization, and debugging using ROS tools like RViz and Gazebo.

Learned the theory and mathematical models behind each SLAM algorithm and implemented various SLAM algorithms within ROS, improving map accuracy and robot navigation.

Mar 2023 – Jul 2023 **Development of Test Platform for VRU Soft Target**
Team Oriented Project Studies (TOPS)

Developed a portable, robust test platform for Vulnerable Road User (VRU) soft target for ADAS testing, particularly AEB.

Utilized both mechanical (e.g. Ackermann steering principle) and electronic (e.g. microcontroller boards) knowledge to design and fabricate the platform.

In charge of programming and designing the platform's circuit system, using C++ to program the microcontroller boards (Arduino and ESP 32).

Mar 2023 – Jul 2023 **Analysis on Vehicle's Dynamics Behavior during Lane Changing**
Automotive Engineering

Analyzed vehicle's dynamics behavior during lane changing at different speeds, focusing on steering angle, yaw angle, steering wheel torque, and the displacement of each tire.

Gained comprehensive knowledge of vehicle behavior during lane changing maneuvers, understanding the critical role of steering angle, yaw angle, and steering wheel torque in vehicle stability.

Acquired hands on experience with advanced sensors for real-time data acquisition, including their application in monitoring and analyzing vehicle performance.

Feb 2022 – Jul 2022 **Bumper Crash Impact Analysis by using Finite Element Method**
Finite Element Method

Designed the bumper system model in SolidWorks, meshing in LS-Dyna, defining materials and sections, setting boundary conditions, contacts, termination, and database for analysis.

Gaining hands-on experience with industry-standard software like LS-Dyna and SolidWorks.

CERTIFICATION

ROBOTIC ARM SYSTEM AND PROGRAMMING
The Ministry of Higher Education's Professional Certification (KPT-PACE)

Learned and gained hands on experience with Linux, ROS, the robotic arm package, and the programming and simulation of robotic arm system.