TOPIC PROPOSAL FORM

UTM — UNIVERSITI TEKNOLOGI MALAYSIA

FYP 1-0 (a)

Name: OOI ZHI YI	Matric No.: A21EE0280	Program: SEEM	Semester/Session: SEM 1-2024/2025
Contact No.: 018-4739194	CGPA: 4.00	Total Credits (current semester): 16	Academic Advisor Name: Dr. Khairul Hamimah Binti Abas
Supervisor Name: Dr. Nurulaqilla Binti Khamis	Field: Machine Vision, AI	Proposed Topic: Development of Trash Detection and Monitoring Dashboard for Environmental Stewardship	

Goal:	To develop an AI-based trash detection and monitoring dashboard that capable to distinguish metal, plastic, and glass type of waste
Objectives:	i. Data Collection • Utilize an open-source dataset to train the initial model for trash detection and classification • Prepare and collect a custom dataset to further enhance model accuracy ii. Model Development • Train the model using the initial dataset, followed by fine-tuning with custom dataset to improve the performance • Validate the model's performance using another collected custom dataset iii. Deployment • Develop a webpage to show the result including the number of detected trash items per category
Scope:	i. Customize the trash classification to three categories which are metal, plastic and glass ii. Selection and customization of YOLO for object detection and trash classification iii. Prepare a custom collected dataset, followed by annotating for further training iv. Design and build a webpage to display the classification result