



UNIVERSITI KUALA LUMPUR ASSESSMENT BRIEF

COURSE DETAILS	
INSTITUTE	UniKL MIIT
COURSE NAME	PRINCIPLE OF ARTIFICIAL INTELLIGENCE
COURSE CODE	ISB46703
COURSE LEADER	AHMAD ZHAFRI HARIZ BIN ROSLAN
LECTURER	AHMAD ZHAFRI HARIZ BIN ROSLAN
SEMESTER & YEAR	MARCH 2025

ASSESSMENT DETAILS	
TITLE/NAME	PROJECT
WEIGHTING	20%
DATE/DEADLINE	WEEK 14
COURSE LEARNING OUTCOME(S)	<p>CLO1: Identify characteristics of programs that can be considered as intelligent.</p> <p>CLO2: Apply appropriate searching techniques in achieving desired goal.</p> <p>CLO3: Represent knowledge using various techniques.</p>
INSTRUCTIONS	<ul style="list-style-type: none"> ● Students must form a group of 2 to 3 students per group. ● Each group must assign 3 different roles among their groupmates: <ul style="list-style-type: none"> ■ Data Engineer ■ Data Scientist ■ Data Analyst ● For every roles, they are task to do different things: <ul style="list-style-type: none"> ■ Data Engineer : Data preparation <ul style="list-style-type: none"> ◆ Collecting data ◆ Standardize data ◆ Creating dataset ■ Data Scientist : Data Modelling <ul style="list-style-type: none"> ◆ Creating neural network model ◆ Training the model ◆ Perform hyperparameter tuning (transfer learning)

	<ul style="list-style-type: none">■ Data Analyst : Data visualization<ul style="list-style-type: none">◆ Visual the dataset to identify the class and labels◆ Understand the dataset to achieve the goals◆ Visualize the performance of the training model● After assigning the roles to each members, each group must prepare their dataset according to the following domain:<ul style="list-style-type: none">■ Forestry■ Medical imaging■ Agriculture health■ Animal subspecies■ Plant subspecies● Using the domain collect and prepare your dataset:<ul style="list-style-type: none">■ Use a web crawler tools to find up to 10,000 images.■ Have at least 3 classes (the more the better) up to 10 classes.■ Split the dataset to training, validation, and testing dataset.● Data Modelling<ul style="list-style-type: none">■ Use 3 different CNNs; ResNet50, Dense121, MobileNetv3.■ These 3 networks are available within the Keras library.■ Train these networks for 50 epochs each.■ Additionally, use 2 metrics to observe the performance of your models (accuracy and mAP (mean average precision))■ Record the training time for each model● Data Visualization<ul style="list-style-type: none">■ Visualize the performance of the every models.<ul style="list-style-type: none">◆ Show the graphs for model loss and accuracy.◆ Display the evaluation using confusion matrix◆ Evaluate the performance of the model against the testing dataset.◆ Draw your final conclusion on which model is the best suited for this classification task.◆ Consider the model's parameter, accuracy, mAP, and training time in your conclusion.■ Prepare a 5 minute presentation to show your results.						
DELIVERABLES	<ul style="list-style-type: none">● Each group must create a GitHub account.● In the account, upload all materials (dataset, notebooks, miscellaneous).● Provide the link to the your GitHub account in VLE submission.● Presentation must be done during class and all team members must be present.						
RUBRIC SCORE	<table><tr><th>Agenda</th><th>Score</th></tr><tr><td>Data preparation:<ul style="list-style-type: none">● Collecting data● Standardize data● Creating dataset</td><td>6</td></tr><tr><td>Data Modelling:<ul style="list-style-type: none">● Creating neural network model● Training the model</td><td>6</td></tr></table>	Agenda	Score	Data preparation: <ul style="list-style-type: none">● Collecting data● Standardize data● Creating dataset	6	Data Modelling: <ul style="list-style-type: none">● Creating neural network model● Training the model	6
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	<ul style="list-style-type: none"> ● Perform hyperparameter tuning (transfer learning) 	
	<p>Data Visualization:</p> <ul style="list-style-type: none"> ● Show the graphs for model loss and accuracy. ● Display the evaluation using confusion matrix ● Evaluate the performance of the model against the testing dataset. ● Draw your final conclusion on which model is the best suited for this classification task. ● Consider the model's parameter, accuracy, mAP, and training time in your conclusion. 	7
	Presentation	1
	Total	20