

AI310/CS361 ARTIFICIAL INTELLIGENCE FALL 2025

COVER SHEET

Project Idea:

17) Automated OCR of Handwritten English Letters using Feature Engineering and Decision Trees / Random Forests.	<input type="checkbox"/>
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Team Information *(typed, not handwritten, except for the attendance signature):*

ID [Ordered by ID]	Full Name [In Arabic]	Attendance [Handwritten Signature]	Final Grade
1			
2			
3			
4			
5			
6			

Item	Mark	Team Members					
		1	2	3	4	5	6
Report (including Problem Definition, Literature Review, References, Relevant Diagrams)	4						
Understanding the Dataset and how to deal with the images	2						
Understanding the different Classes (Labels) and Splitting the Data to Training and Testing	2						
Testing using Cross Validation instead of Splitting the Data into Training & Testing	2						
Applying varying Feature Engineering Approaches	6						
Understanding and Constructing a Proper Decision Tree and Random Forests Architectures	8						
Discussion & Analysis of Results – including the effects of different tree heuristics, different tree randomisation approaches, difference in generalisation across DTs/RFs	5						
Implementation	6						
GUI (deduct 3 marks if no proper design for inputs or outputs)							
If another algorithm is applied, deduct 5 marks							
Deduct 50% to 100% of a Student's grade if (s)he didn't participate							
Total	35						