Final Project CS5100

Final Project and Report Submission details

Project Overview:

Each student/team (max 4 students) will complete an AI-based final project that applies concepts learned throughout the course. The project may involve machine learning, natural language processing, computer vision, or another relevant AI domain.

Projects should demonstrate:

Application of AI techniques to a real-world or academic problem:

- The first step of the coursework is to identify and describe the problem or challenge. This is an area of industry or science where project can contribute. Include relevant literature to support the significance of the chosen area.

Originality:

The project should evidence of original contribution:

- Your work must be situated within existing literature, with proper citations and references to high-quality sources.

Clear documentation and explanation of AI methods used.

Details:

Students may choose from the following categories:

- Text Classification (e.g., Spam Detection, Fake News Detection)
- Computer Vision (e.g., Image Classification, Facial Recognition, Facial Emotion Detection)
- Recommender Systems (e.g., Movie or Book or Product Suggestions)
- NLP Applications (e.g., Chatbots for a specific domain, Resume Parsers)
- AI Games (e.g., AI Based Game like Scissors, Papers, Stones or Tic Tac Toe or a similar game)
- Predictive Analytics (e.g., House Price Prediction, Stock Market Prediction)

Submission Requirements:

Project Deliverables

1) You must submit the following items in a single compressed (.zip) folder named: AI_Project_YourNameOrTeamName.zip

2) Contents:

1. Report that includes:
    - Project title and team members
    - Project description (objectives, scope)
    - Tools and libraries used
    - Setup instructions for running the code
2. Source code:
    - Clean, commented Jupyter notebooks/Python files with description
    - Clearly structured folders (e.g., data/, models/, scripts/)
3. Final report (PDF format):
    - Follows the structure below
4. Presentation:
    - Max 5 mins
    - Slides used in the presentation
    - Pre-trained models or datasets used (or links)

Final Report Template (5–10 pages)

Title Page

- Project Title
- Student Name(s)
- Course Name & Date

1. Introduction

- Problem statement: Explain
- Motivation and goals: Explain with citations from literature

2. Background

- Related work: Explain with citations from literature
- Brief explanation of AI/ML concepts used

3. Methodology

- Tools and frameworks: Provide details

- Data sources and preprocessing: Provide link to datasets with details of datasets and specific preprocessing done
- Algorithms/models/ codes used (include diagrams/screenshots) to clearly explain the implementation steps

4. Results

- Model evaluation metrics (accuracy, F1-score, etc.)
- Visualizations (confusion matrix, graphs)
- Example outputs

5. Discussion

- Limitations
- Interpretation of results
- Potential improvements

6. Conclusion

- Summary of achievements
- Lessons learned

7. References

- Any academic, web, or dataset sources used

Evaluation Criteria for Report and Project: 100 Marks

Criteria	Weight (%)
Problem clarity & motivation	10%
Methodology and AI techniques	30%
Quality of implementation	25%
Results and analysis	20%
Report & documentation	10%
Originality and creativity	5%

Final Presentation: 25 Marks: (Slides: 10 Marks, Delivery: 10 Marks, Q&A: 5 Marks)