Final Project Specification: LLM Course

This document outlines the requirements and expectations for the final project in the Large Language Models (LLM) course. This project provides an opportunity to apply the concepts and techniques learned throughout the course to a real-world problem involving LLMs.

Project Goal

The primary goal of this final project is to design, implement, and evaluate an LLM-based application or conduct an in-depth analysis of a specific LLM-related topic. Students are encouraged to explore areas of personal interest while demonstrating a comprehensive understanding of LLM principles.

Project Deliverables

The final project will consist of the following deliverables:

- **Project Proposal**: A brief document outlining your chosen project topic, its objectives, proposed methodology, and expected outcomes.
- **Codebase/Implementation**: If applicable, a well-documented codebase or implementation of your LLM application.
- **Final Project Report**: A comprehensive report detailing your project, including background, methodology, results, discussion, and conclusions.
- **Presentation**: A brief presentation summarizing your project and its key findings.

Important Dates

Deliverable	Due Date	Deliverable
Project Proposal	Oct 2, 2025	Proposal
Mid-Project Check-in	Oct 14, 2025	Milestone
Final Project Submission	Nov 18, 2025	Report
Project Presentations	Nov 25, 2025	Presentation

Grading Rubric

Projects will be evaluated based on the following criteria:

- **Originality and Innovation**: How novel and creative is your project idea?
- **Technical Proficiency**: Demonstration of understanding and application of LLM concepts and techniques.
- **Depth of Analysis/Implementation**: Thoroughness of research or the robustness of the implemented solution.
- **Clarity and Organization**: Quality of written report and presentation.
- **Impact and Significance**: Potential real-world impact or contribution to the field.

Practicalities

- **Team size:** Students may do final projects in teams 3-5 people. We strongly recommend you do the final project in a team. Larger teams are expected to do correspondingly larger projects, and you should only form a 5-person team if you are planning to do an ambitious project where every team member will have a significant contribution.
- **Contribution**: In the final report we ask for a statement of what each team member contributed to the project. Team members will typically get the same grade, but we may differentiate in extreme cases of unequal contribution. You can contact us in confidence in the event of unequal contribution.
- **Sharing projects:** You can share a single project between DCC831 and another class, but we expect the project to be accordingly bigger, and you must declare that you are sharing the project in your project proposal.
- **Using external resources**: The following guidelines apply to all projects:
    - You can use any deep learning framework you like (PyTorch, TensorFlow, etc.)
    - More generally, you may use any existing code, libraries, etc. and consult any papers, books, online references, etc. for your project. However, you must cite your sources in your writeup and clearly indicate which parts of the project are your contribution and which parts were implemented by others.
    - Under no circumstances may you look at another DCC831 group's code, or incorporate their code into your project.

Project Ideas and Examples

Students are encouraged to develop their own unique project ideas. Below are some examples to inspire your thinking:

- **Text Generation**: Develop a model for creative writing, summarization, or code generation.
- **Question Answering**: Build a system that can answer questions based on a given text or knowledge base.
- **Sentiment Analysis**: Implement an LLM for detecting sentiment in reviews or social media posts.

- **Dialogue Systems**: Create a simple chatbot or conversational AI.
- **LLM Evaluation**: Conduct a comparative analysis of different LLMs on specific tasks.
- **Prompt Engineering**: Experiment with different prompt engineering techniques for specific use cases.

For any questions or clarifications regarding the project, please reach out to us or refer to the course discussion forum at Moodle.