[CSCI-GA 3033-091] Fall 2025 LLM based Generative AI Systems

Course Project Proposal 09/26/25

Overview

- This project will be evaluated across four main components:
- Project Proposal (10%)
- Final Project Presentation (30%)
- Proposal Report (30%)
- Project Code and Tutorial (30%)

Project Timeline

- **October 16, 2025**: Project Proposal deadline
- **October 1 – October 15:** Discussions with TAs
- **December 15 (to be confirmed), 2025**: Final Project Presentation and Report

Project Proposal (10%)

Clarity of Objectives (4%)

- Clear definition of research questions or development goals
- Specific problems to be addressed
- Expected outcomes and deliverables
- Alignment with course objectives

Feasibility (3%)

- Realistic timeline and milestones
- Assessment of required resources and their availability
- Identification of potential challenges and mitigation strategies
- Clear scope definition

Innovation and Relevance (3%)

- Originality of the proposed approach
- Connection to current GenAI research trends
- Potential impact on the field
- Novel application or methodology

Final Project Presentation (30%)

Problem Statement (10%)	Context and Background	Clear description of the problem domain
		Current state of the art and its limitations
		Significance of the problem in GenAI context
		Target audience and use cases
	Research Questions	Clearly articulated research questions
		Hypotheses and assumptions
		Scope and boundaries of the investigation

Final Project Presentation (cont.)

Major Contributions (10%)	Technical Innovations	Novel algorithms or methodologies
		Architectural improvements
		Performance enhancements
		Integration strategies
	Practical Impact	Real-world applications
		Scalability considerations
		Resource efficiency
		User experience improvements

Final Project Presentation (cont.)

Evaluation (10%)	Quantitative Metrics	Performance measurements
		Comparative analysis with baselines
		Statistical significance of results
		Ablation studies
	Qualitative Analysis	Case studies
		User studies (if applicable)
		Error analysis
		Limitations and future work

Proposal Report (30%)

Structure and Format (5%)	Professional layout and formatting
	Logical flow of sections
	Proper citations and references
	Clear figures and tables
Depth of Research (8%)	Comprehensive literature review
	Critical analysis of related work
	Understanding of fundamental concepts
	Integration of multiple perspectives

Proposal Report (cont.)

Methodology (8%)	Detailed experimental setup
	Data collection and preprocessing
	Model architecture and implementation
	Training and optimization procedures
Results and Analysis (6%)	Clear presentation of findings
	Appropriate visualizations
	Thorough analysis of results
	Discussion of implications
Grammar and Writing Quality (3%)	Professional academic tone
	Clear and concise writing
	Proper technical terminology
	Consistent formatting

Project Code and Tutorial (30%)

Code Quality (8%)	Clean and organized code structure
	Comprehensive documentation
	Unit tests and error handling
	Code optimization
Functionality (8%)	Successful implementation of proposed features
	Robust error handling
	Performance optimization
	Integration testing

Project Code and Tutorial (cont.)

Experiment Results (7%)	Reproducible experiments
	Well-documented experimental setup
	Clear presentation of results
	Analysis scripts and notebooks
Step-by-Step Tutorial (7%)	Clear installation instructions
	Environment setup guide
	Usage examples and demonstrations
	Troubleshooting guide

Grading Summary

Component	Percentage
Project Proposal	10%
Final Project Presentation	30%
Proposal Report	30%
Project Code and Tutorial	30%