CS 690-003, Spring 2025: Final Project Requirements

Background

All students are required to propose and deliver a final project. The projects are due on the day of the final exam scheduled for the class. Each team/student will present their results in class in addition to submitting a written report and all code and data used in project performance. Reports and code are due at the time of the presentation. Final projects will be graded using the criteria described below with the following weights assigned to various parts:

(40%) Performance and execution

(30%) Final presentation

(30%) Technical report

Performance and Execution

This part of the grade will be based on the programs and test data used to demonstrate that the programs work. The code should compile and work on the data that will be submitted with the final report. The grade will be assigned as follows (from 40% total):

(20%) The project demonstrates a solution to an interesting connected/ automated vehicle problem.

(5%) The program is well documented and easy to follow.

(15%) The test data is chosen well and the tests are convincing.

Final Presentation

Each team will present their project in front of the entire class. Slides are not required, but are recommended. The presentation should provide sufficient background so that it can be followed by students who took the class. It should properly credit the sources and demonstrate the performance. Live demos are encouraged. Finally, the conclusions and possible future directions should be presented. The grade will be assigned as follows (from 30% total):

(5%) The project is well motivated and sources are properly attributed. Conclusions and future directions are meaningful.

(10%) The methods used/developed are clearly presented.

(15%) Project performance is clearly and comprehensively demonstrated.

Technical Report

Each team will submit a technical report, the documented code, and all their data in a zip file or a tarball. The report should be written as a technical paper and should have the following parts:
Abstract. A short summary of the project, including the main idea, methods, and tests should be given. This part should be about 200-250 words long.
Introduction and Related Work. The problem should be described here. The proposed approach should be described and all related works should be cited.
Technical Approach. The algorithms developed to solve the problem should be described in sufficient detail. Mathematics and figures should be used as needed to make it possible for a reader with sufficient background, say CS 690 class, to implement the methods on their own. The results of the program should be included to make the paper more readable.
Results and Discussion. The results of testing should be presented and discussed. The contribution of each member should be described in one paragraph. Each team member should include a paragraph describing

their own experience and comments about what was done well, what was missed or could have been done if there was more time and/or expertise.
Conclusions. Conclusions should include remarks relating the proposed project and the obtained results. Possible future directions should be discussed briefly.
References. All cited works.
The reports will be graded on clarity and coverage of all required parts.