

Introduction to Deep Learning - Project 2025 :

updated November 18, 2024

The course project is intended for students who already have extensive experience with deep learning and who want to use the project's results to further their own research program. Projects are individual efforts (no teams). Students may opt for the project with instructor approval. Students interested in pursuing this option should see the instructor as soon as possible. Approval for the project option is contingent on an acceptable *proposal* that is due before Spring Break. Details on what should be included in the proposal are itemized below. Students whose projects are approved may turn in a final project report at the end of the semester and these students need not take the final. I will use the project report grade in place of the final exam grade.

Project Proposal: The project proposal will be written using the style file for the International Conference on Machine learning (ICML). Proposal length is 4 pages not including references or appendices. The proposal must contain the following

- Introductory section describing the proposed project's objective and detailing why it is a supervised learning problem.
- Background information needed to understand the significance of the project's objective and a review of the prior literature baselines that the project's results will be compared against.
- Description of the dataset you plan to use, along with a baseline model derived from that dataset providing the performance level your model is trying to beat.
- Description of the model architecture you plan to work with, along with initial training curves and performance levels for your model.
- Description of final work that needs to be done to complete the project, particularly with regard to proposed changes to model architecture and work that needs to be done to develop the results for prior baseline models you will compare your model against.
- References

Final Project Report: This report should be written as if it were a submission to an ICML conference; 6-8 pages not including references and appendices. It can, in large part, be a completion of the project proposal, that adds results from prior literature baseline comparisons and conclusions about the project's findings.