CSE 676: Deep Learning
Project Guidelines for Fall 2018

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1 Project Options

You are provided with project options to choose from. Teams are also open to propose their own topic after discussion with the instructors before or on the proposal date.

If you want to pitch your own topic, note that you should have:
1. An implementation available on git so that it can be referred to
2. A well-defined and restricted problem statement
3. Publicly available datasets
4. A research paper accepted in tier-1 conference at-least in or after 2012.

2 Project Expectations

In this project we want you to implement an existing research
You are expected to report and explain the data preprocessing, Deep Learning network architecture design, loss functions, metrics used, datasets used, training process for any project that you choose
You may not mere use a pre-trained model and show results, but train the model and report the results from your run.
You may not take up a project which are not fitting in the criterion mentioned in above section to choose own project.
You are expected to follow the scoring rubric and complete the expectations mentioned in the Project Option document while implementing your project. Failure to do so will result in loss of marks

3 Project Proposal

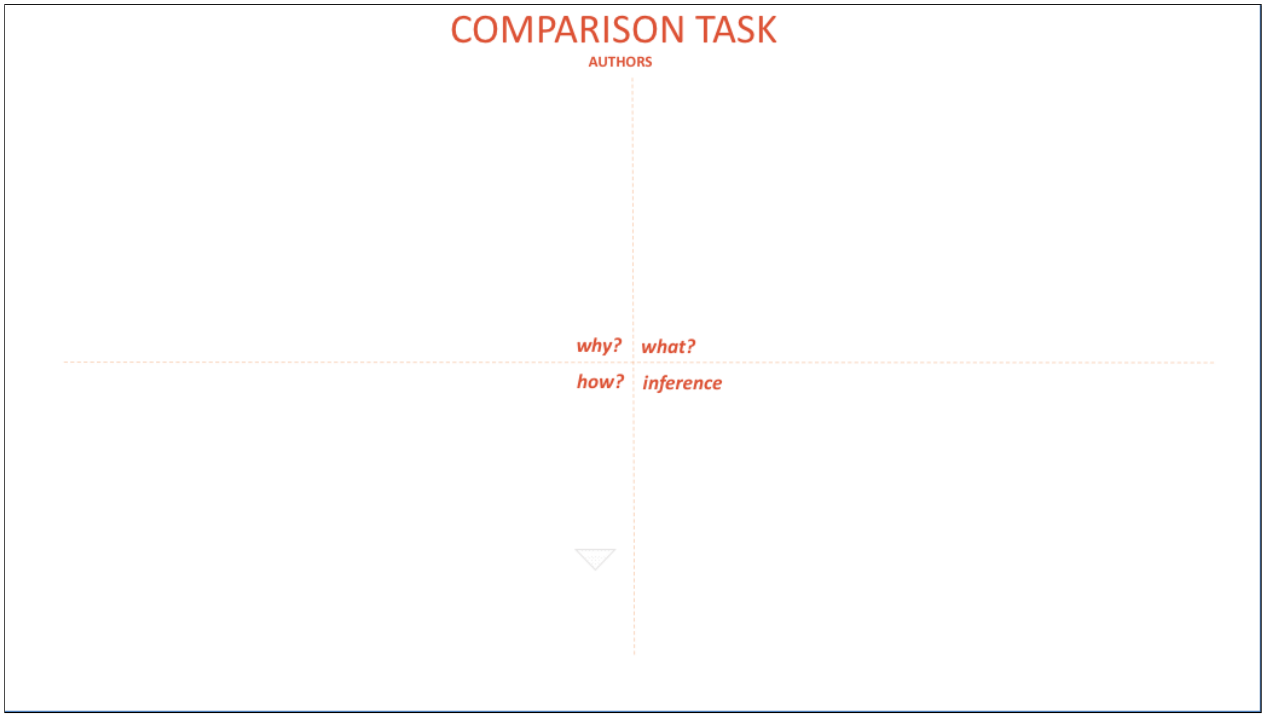
You need to present a project proposal about four weeks into the semester. Prepare your proposal in the form of a presentation with four parts:
1. Title (with authors), Problem Domain, description, and Data Sources
2. Variables together with their types, and proposed distributions
3. Evaluation methods.

4 Final Project Report

There are two deliverables:
1. project code
2. project report
The project report should describe the problem domain, data-set, algorithms used and performance (time complexity and accuracy). Use a format such as a conference paper for submission to NIPS or ICML. Include appropriate graphs and charts.

5 Proposal Format

Here is a sample proposal format which also uploaded on UBLearns and Piazza resources for reference. Make sure to bring two printed copies of the same on the proposal day.



5.1 Why?

Why is your topic important and worth research
Are there any use cases?
Any Industrial Application?

5.2 What?

What paper are you implementing?
What are the dataset parameters (Contents, Size, shape, type)
What Back-end will you use?

5.3 How?

How are you going to work on the project?
Any mile-stones (Ex. Preprocessing 3 days, Code understanding and implementing 5 days, etc)
How does the network which you will implement look like?

5.4 Inference

Evaluation metrics (Ex. MAP, recall, f1-score, loss, categorical_accuracy, Intersection over Union, etc)
When would you stop the training?
Include pictures in where ever possible.

6 Scoring Rubric

Marks for this will not be shared with all.
Evaluated during one-on-one meetings

Topic	*Distribution %*
Proposal	*5%*
Code understanding and explanation clarity	*15%*
Architecture Understanding and explanation of its usefulness	*20%*
Conceptual Clarity in report	*15%*
Results - Graphs, Tables, Confusion Matrix, Metrics etc.	*20%*
Report Formatting	*5%*
Each team members individual contribution and work	**20%**
TOTAL	*100%*