

Project Proposal

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1 Introduction

What is the problem and why is it interesting and/or useful?

2 Related Work

What work has been done in the past to solve this problem? What is the consensus approach and how well does it perform? What datasets are used and what are their limitations?

3 Objectives

What do you want to achieve this semester? What do you want to achieve if you were to pursue this project over multiple semesters?

4 Preliminary Analysis

Get familiar with your data and establish some simple baselines:

- What sort of performance could you achieve by randomly guessing? What about linear models?
- What are the distributions of some of the features and labels? Are any particularly skewed?
- Justify that the objectives are realistic

5 Project Outline

How do you plan to achieve your objectives for this semester?

- What are some papers whose results you want to duplicate and do you have the resources (computation power, datasets, etc.) to do so?
- Are there any improvements can you make on existing work? If so, what are they? (Model architectures, optimization schemes etc.)
- What are some experiments you can run to prove the validity of your results?

References

- [1] Kaiming He, Xiangyu Zhang, Shaoqing Ren, and Jian Sun. Deep Residual Learning for Image Recognition. <https://arxiv.org/pdf/1808.03233.pdf>.