# **Proposal Template**

A Proposal Prepared for the Final Project of the graduate Course CS405: Machine Learning

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#### **Abstract**

This document offers you a template to write your proposal for the CS405 final project. It includes six components: (1) Research Question or Problem; (2) Research Goals and Objectives; (3) Research Design and Methods; (4) Initial Results; (5) Staffing Plan; (5) Timeline; and (6) Reference.

#### 2.1 Research Question or Problem

In this section, write down the justification and significance of your research plan. You can talk about the gap between the expectation and the reality, between the practical need and what people can do. You may review the literature to support your opinion and give some background information. You need specifically state what general problems you are going to address, such as improving self-driving performance, increasing the fusion speed of 2D and 3D data, or developing a semantic image segmentation system.

## 2.2 Research Goals and Objectives

In this section, describe specifically the goals and objectives of this project, such as what kind of intelligent functionalities the self-driving system is going to achieve, what speed will be obtained for a given computation mechanism, or what's the capability of your self-driving system (i.e. how fast it can avoid the obstacles, the number of traffic signs it can detect and recognize). Give some proofs to support your goals and objectives.

## 2.3 Research Design and Methods

In this section, you need to give a more detailed description of the codes you download, the methodology they used and what you are going to utilize those codes. Write down the improvement you plan to make and the possible algorithms you will employ.

## 2.4 Initial Results

In this section, you need to give a detailed description of the initial results you have received, and what are the problems and significance of these results. Write down the improvement you plan to make and the possible algorithms you will employ.

# 2.5 Staffing Plan

In this section, the background and expertise of each team member should be introduced. Each member's role and tasks should also be stated specifically.

## 2.6 Timeline

In this section, a detailed schedule and research plan should be described in terms of milestones and specific achievements. Please refer to the schedule for the final project on the course website.

## Reference

Write down the papers you refer to and the websites you download the codes.