

CSE 598 Research Proposal: [Research Title]

{anishcha, diangao, linglong}@umich.edu
University of Michigan, Ann Arbor

February 22, 2025

Abstract

This proposal outlines [brief description of research focus]. The research aims to [state main objectives]. Using [methodology], we will investigate [key questions]. Expected outcomes include [list outcomes]. [Add significance statement].

1 Introduction and Motivation

Recent developments in [your field] have highlighted [key problem]. Current approaches such as [cite examples] suffer from [limitations]. This research addresses [specific gap] through [your approach].

2 Research Objectives

- Objective 1: [Formulate first objective]
- Objective 2: [Develop solution/method]
- Objective 3: [Validate through experiments]

3 Methodology

3.1 Data Collection

[Describe data sources] will be collected using [tools/methods]. Preprocessing will include [steps].

3.2 Analytical Approach

We propose the following model framework:

$$f(x) = \sum_{i=1}^n \alpha_i \phi(x_i) + \epsilon \tag{1}$$

where ϕ represents [feature mapping] and ϵ is [error term].

4 Expected Outcomes

1. Outcome 1: [Direct result of Objective 1]
2. Outcome 2: [Validation metric for Objective 2]
3. Outcome 3: [Theoretical contribution]

5 Timeline

Timeline	Task
Weeks 1-2	Literature review and problem formulation
Weeks 3-4	Data collection framework setup
Weeks 5-8	Model development and validation
Weeks 9-10	Experimental analysis
Weeks 11-12	Paper drafting and final submission

References