The purpose of this research proposal is to present a detailed plan for your research through the end of the academic year. Modeled after a formal academic proposal, the typical structure includes the following sections or components:

- **Abstract** summarizing the problem, solution, and technical approach. All material is re-presented in the main text.
- **Problem statement** and **motivation** describing the problem to be solved, its significance or importance and novelty, and desired outcomes.
- **Related work** highlighting relevant past work (5 references) with emphasis on how your project differs from, extends, or depends on that research and the state of the field.
- **Proposed solution** including your approach, how it addresses the problem, and at least one concept diagram.
- **Evaluation plan** stating how you plan to evaluate success and which **metrics** you will use.
- Schedule or **timeline** of your SuperUROP project.
- **Conclusion** (brief) summarizing the proposal and/or describing future work, publication goals, and open problems.
- **Figures** (2-4) illustrating key concepts, apparatus, block diagrams etc.

**Grading**

Your proposal will be assigned a grade for technical content by your TA, and a grade for communication by your communication instructor. The draft is a completion assignment and will receive an **advisory grade** indicating progress towards a successful final proposal.

**Format**

Your first draft should be single-column, double-spaced for ease of reading. Your final proposal length should be 1500-2000 words. Please proofread for spelling, grammar, and syntax.
Proposal guidelines

Abstract
☐ Summarizes problem statement, proposed solution, and technical approach.

Problem statement & motivation
☐ Describes a real-world problem, or area of scientific inquiry, that can be addressed technologically.
☐ Links technological solution and proposed SuperUROP project to problem.
☐ Highlights the “gap” in knowledge.
☐ Identifies challenges to be addressed, and outcomes to be produced.

Related work
☐ Summarizes the relevant field using appropriately referenced and cited sources.
☐ Justifies technical choices and/or demonstrates plausibility of technical approach.
☐ Emphasizes briefly how your solution differs from, extends, or draws on related work.

Technical approach & proposed solution
☐ Opens with summary of work focused on experimental design/hypothesis/inquiry
☐ Explains how methods produce the desired situation and outcomes and/or solve the problem; states limitations if appropriate.
☐ Justifies approach by reference to previous/related work.
☐ States limitations if appropriate.
☐ Specifies evaluation metrics and justifies them in terms of goals and methodology.

Timeline
☐ Timeline articulates realistic, verifiable monthly goals.

Figures
☐ Communicate significant concepts or relationships, particularly ideas which are difficult to express in text.

Discourse & Format
☐ “Known/new” sentence structure orients the reader and supports comprehension, especially in related work.
☐ Figures link to the main text using labels, captions, and reference in the text.
☐ Language features and phrases signal key components of the proposal.
☐ Proposal is written for a technical/scientific reader outside the specific area of research.
☐ Title, author, and supervisor information are appropriately presented.