

THE RESEARCH PROPOSAL

Dr. Garrett Dancik

The Purpose of the Research Proposal

- Typically, the amount of money and resources available to an institution or company limits the amount of research projects that can be carried out.
- The purpose of a **research proposal** is to convince a funding agency to support your research project, rather than other possible research projects that are proposed.

The Purpose of the Research Proposal

- A research proposal should convince others that the research
 - addresses an important question/issue and is therefore *significant* and *necessary*
 - The reader of the proposal needs to understand why the research is important
 - can successfully be carried out by the individuals proposing it
 - Do individuals demonstrate knowledge of background and related work?
 - Are methods clearly described?
 - Do individuals have a track record in this or similar areas?

Research Proposal Outline

- Abstract
 - A concise summary of the research, containing background, significance, and proposed methods, in no more than 150 words
- Background and Significance
 - *Significance*: Why is the proposed work important and needed? Clearly state the objective of the proposal. What, specifically, will be accomplished? List any hypotheses, if applicable. (Minimum background can be provided)
 - *Background*: What does the reader need to know to understand the proposed research? Even if the proposal is read by a computer scientist, not all computer scientists have the same background.
 - *Related work*: How does your proposed project fit in with related work? How does it build off related work, by addressing limitations or seeking to confirm previous findings.

Research Proposal Outline (continued)

- Methodology
 - How will the research be carried out? What equipment/tools are necessary?
 - What is the timeline for the proposed work?
- Statement of Qualification
 - Why are you qualified to carry out the proposed research?
 - Qualifications should be as specific as possible (“In the Database and Design course...”)
 - You can also include “general” qualifications (“As a senior majoring in Computer Science...”)
 - For this proposal, you may indicate your personal interest in the research and why it will advance your academic / career goals

Research Proposal Outline (continued)

- Expected Outcomes
 - What are the expected outcomes of the proposed work?
 - What do you expect to find or learn?
 - What tangible objects will be produced? Software? Research Paper? Poster?
- Bibliography (use IEEE format)
 - List of references cited in your proposal
 - Your proposal should contain references for at least 3 **research** articles, and may contain more.