Applying for SURG and SURF

Part 2: The Proposal

Undergraduate Research Office
March 2022

Carnegie Mellon University
Office of Undergraduate Research and Scholar Development

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Abstract

Objectives and Contribution of the Research

- Research questions or objectives
- Artistic or creative influences
- Gaps in the existing body of work
- Novel contribution to the field and/or to society

Methodology

Type I

- Specific techniques to be used
- Design choices: Media, genre, context, etc.
- Justification of the targeted techniques and design choices
- If applicable: Analytical techniques to be applied
- Expected artistic or creative product
- Timeline

Background

Feedback and Evaluation

Dissemination of Knowledge

Required Supporting Materials

Abstract

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Methodology

Type II

- Specific methods to be used
- Equipment and materials to be used
- If applicable: sampling method
- If applicable: protocol for interview or survey
- If applicable: experimental setup
- If applicable: methods of analysis
- Justification of the methodological choices
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Your audience: The selection committee!

4 readers for each proposal:

- 1 URO staff member
- 1 faculty member in your general disciplinary area
- 2 faculty members *not* in your area

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Selection criteria

1. Well-defined, actionable research question or objective
2. Discussion of hypotheses OR other expected findings/outcomes
3. Discussion of the significance/contribution of the research to the broader field
4. Comprehensive explanation of methodology
5. Discussion of background, supervision, and dissemination of results

Common pitfalls…

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So you think you have a research question…

One of the biggest pitfalls with proposals is that they discuss a broad research topic, but never state a concrete question or objective!

An **actionable** RQ/RO:

1. Is stated in a way that it can be answered/achieved with information that you are able to find or create.

2. Is narrow enough in scope that you can use it to determine your methodological approach.

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Quick poll! How actionable is this RQ?

"We are interested in better approaches to solving the 'Black Box' problem in artificial intelligence."

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Breakout room discussion:

1. Take turns sharing your research questions/objectives with the group

2. As each group member shares,
   a. Help them gauge how actionable their RQ/RO is at this point
   b. Help them brainstorm how they can better define their RQ/RO, if needed

3. Try to respond to the “so what” question. How is your research contributing **new knowledge** to your field and/or to “real-world” applications?

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What IS a “comprehensive” discussion of methodology?

1. **Explains** the process to be carried out in answering your RQ or achieving your RO
   a. Specific methods/tasks
   b. How information/data/creative output will be gathered or produced
   c. How information/data/creative output will be analyzed or implemented

2. **Justifies** this process design
   a. Why are the chosen methods/tasks the best ones for your purposes?
   b. How will these methods/tasks produce results that will fulfill your RQ/RO?

3. Feasibility & timeline considerations

Breakout room discussion:

1. Take turns sharing your methodology with the group.

2. As each group member shares,
   a. Help them gauge how concrete their plan currently is.

   b. Help them identify areas of the methodology to “firm up” with their research advisor, if needed.

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The final three sections

- Background
  - What do you bring to the project? Relevant courses, experiences?

- Feedback and Evaluation
  - Who is your faculty mentor? What is the mentoring structure for this project?

- Dissemination of Knowledge
  - How will you share the results?
    - Hint: Meeting of the Minds 2023! (but also other outlets?)

➔ Each should be one short paragraph at most!

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Important Dates:

- 1:1 Proposal reviews **now - 3/22**!
  - Schedule in Handshake: Specialized Appointments → Undergraduate Research and Fellowship/Scholarship Appointments
- March 23rd: Application deadline
- March 27th: Deadline for faculty to upload letter and accept
- Mid-April: Award Notifications

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