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CS 6795: Cognitive Science
Summer 2025
Self-Directed Term Project - Project Pitch
Due: Jun 1, 2025

Assignment Submission (.PDF format)*:*
Answer the following prompts in a maximum of 1,500 words (excluding title page and references) in IEEE format. Any content beyond 1,500 words will not be considered for a grade. This length is intentionally set expecting that your submission may include diagrams, drawings, pictures, etc. These should be incorporated into the body of the paper.

Assignment Prompt:
For this assignment, you will be pitching a cognitive science topic that you'd like to explore in further detail. You should **avoid** having significant overlap with topics already explored in the Individual Exercises, such as whether LLM's are conscious.

There are 3 tracks that you can choose from: Literature Review, Cognitive Science Experiment, and Computational Model/Tool. Each of these tracks will have minor differences in requirements.

Literature Review Track

1. Introduction

- What broad topic are you studying (e.g., learning and education, design, HCI)?
- What **specific** research question are you trying to answer through your project? You may reference this link for guidance on choosing a research question.
    - An example of a research question that is too broad:
        - How do video games influence childhood development?
    - An example of a specific research question:
        - How does regular engagement with educational video games affect problem-solving skills and attention span in children aged 7-10?
- Why are you interested in studying this question?
    - Provide sufficient details around what piqued your interest. For example, you can state that this research area is of interest due to a life experience or that it affects someone you know.
- Why is this important?
    - Use credible resources to provide justification on what makes this research question important.

2. Initial Research Design and Expected Outcome

- What are some relevant topics of literature you will be looking at?

- What do you expect to find at the end of your literature review project?
- How are you going to conduct the review moving forward?
- We also expect that you have identified 10-15 literatures as relevant and list them in your submission.
    - At least 70% of your chosen literature must also have been published within the last 15 years.
    - At least 80% of your chosen literature must be from peer-reviewed sources.
- You don't have to read the listed literature in detail, but you should keep the following in mind as you skim:
    - Why and how are they relevant to your research questions?
    - Do you see any patterns in the literature you have looked at so far?
    - Have you seen any research that contradicts one another?
    - Are you able to build a framework from the papers you've viewed?

3. Research Plan for the Semester

To help with your planning, we created a template for you to keep track of all the tasks required. You can download or copy the task list template and use it as a reference.

- Be sure to think critically about the tasks and corresponding time commitments appropriate for your chosen project type.
- To be clear, this Project Pitch submission requires the planning of all tasks and time commitments for completing the remainder of the project milestones. Please submit the task list with this Project Pitch submission as an appendix. The time commitment for the project must add up to **at least 80 hours.**

CogSci Experiment Track

1. Introduction

- What broad topic are you studying (e.g., learning and education, design, HCI)?
- What **specific** research question are you trying to answer through your project? You may reference this link for guidance on choosing a research question.
    - A poor example of a specific research question that is too broad:
        - How do video games influence childhood development?
    - A good example of a specific research question:
        - How does regular engagement with educational video games affect problem-solving skills and attention span in children aged 7-10?
- Why are you interested in studying this question?
    - Provide sufficient details around what piqued your interest. For example, you can state that this research area is of interest due to a life experience or that it affects someone you know.
- Why is this important?

    - Use credible resources to provide justification on what makes this research question important.

2. Initial Research Design and Expected Outcome

- What kinds of data are you planning to collect?
- What do you expect to find at the end of your experiment?
- How are you going to study your research questions?
- Does it involve interacting with human participants? If so, what methods are you going to take to conduct a human-subject study (e.g., surveys, interviews, user study)?
- Does it involve any system or prototype building? What is the experiment procedure?

3. CITI Training (if applicable)

- In order to participate in human subjects research, you must have completed the required training from the Institutional Review Board (IRB).
- To complete your required CITI training, visit Georgia Tech's CITI training page and click "Click Here to Complete CITI Training". Confirm that you consent to having your account information passed through. Then, when prompted, you should select the following options:
    - Select "Group 2: Social/Behavioral Research Investigators and Key Personnel" for your group and "Human Subjects Research" when asked for your curriculum.
    - Select "N/A" when asked if you would like to take the Good Clinical Practice course.
    - Select "N/A" when asked if you would like to take the Health Information Privacy and Security course.
- Then, complete the course(s) in which you are now enrolled. If you have previously completed these courses for other classes, you do not need to redo them; just export your existing certificate again.
- Please add this certificate as an appendix to your paper so that we are aware you completed the training.

4. Research Plan for the Semester

- Distribution of responsibilities for the semester. To help with your planning, we created a template for you to keep track of all the tasks required. You can download or copy the task list template and use it as a reference.
    - Be sure to think critically about the tasks and corresponding time commitments appropriate for your chosen project type.
    - To be clear, this Project Pitch submission requires the planning of all tasks and time commitments for completing the remainder of the project milestones. Please submit the task list with this Project Pitch submission

as an appendix. The time commitment for the project must add up to **at least 80 hours.**

Computational Model/Tool Track

- What broad topic are you studying (e.g., learning and education, design, HCI)?
- What **specific** research question are you trying to answer through your project? You may reference this link for guidance on choosing a research question.
    - A poor example of a specific research question that is too broad:
        - How do video games influence childhood development?
    - A good example of a specific research question?
        - How does regular engagement with educational video games affect problem-solving skills and attention span in children aged 7-10?
- Why are you interested in studying this question?
- Why is this important?
- Initial research design and expected outcome:
    - What information will your system take as input and what will it give as output?
    - What cognitive science concepts/lessons/principles inform your computational model/tool?
    - Where and how are you going to derive these concepts/lessons/principles (E.g., through the lecture materials, through a short literature review, through user studies, etc.)?
    - What kind of computational model/tool are you planning to build?

  Note: The project should result in a small proof-of-concept prototype to illustrate the concept and functionality of your design (e.g., software prototype, video, tutorial, schematic drawings). You might find that a certain track lends itself to a particular kind of prototype; a software prototype might conform better to the computational tool/model track than it does to the literature review track, for example.
- Distribution of responsibilities for the semester. To help with your planning, we created a template for you to keep track of all the tasks required. You can download or copy the task list template and use it as a reference.
    - Be sure to think critically about the tasks and corresponding time commitments appropriate for your chosen project type.
    - To be clear, this Project Pitch submission requires the planning of all tasks and time commitments for completing the remainder of the project milestones. Please submit the task list with this Project Pitch submission as an appendix. The time commitment for the project must add up to **at least 80 hours.**

Project-Specific Questions:
This is intended to be a self-directed project. If you have questions about your topic or general research direction, please post a private message on Ed; but, understand that we might not be able to answer every question. Also, keep in mind that it is the intention of the milestone grading comments to provide topic guidance or actionable feedback.