Project Track 2

Introduction

The objective for PT2 is to (1) introduce state-of-the-art database-related research, (2) allow students to write and experience paper critiques, (3) prepare them to explore new research problems based on existing research findings. You are asked to complete **three paper critiques** and **one research proposal**. The project proposal should be based on **at least two** of the papers you critiqued. We detail these components below, please read them carefully.

Project Track 2 is individual work. No group work is allowed. You can discuss **ideas** between peers but you must write down all the netids that you discussed the paper with when submitting your paper to avoid plagiarism. No copying text is allowed.

This semester, the due dates for PT2 would be <u>Feb 11, March 8th, and April 8th</u> for the three paper critiques. The proposal would be due on <u>April 30th</u>. These dates should be the same on the course schedule list.

Part 1: 3 Paper critique (75%)

Paper Selection

There are **three** paper critiques with deadlines: 2/11, 3/8, and 4/8 respectively. For the first two paper critiques, you are **required** to select your paper from the **list of proposed (https://docs.google.com/spreadsheets/d/15_LoqcP18o9XAeEhzUVeKcmBd_o-MxlYlu-n3lAH1UQ/edit#gid=0)** papers below. For the third critique, you need to select one paper from one of the following conferences published after Jan 1st, 2016. You can reach out to your project TA if the paper you want to critique is not listed in the above journal for special approval. Approved venues include **VLDB (https://www.vldb.org/)**, **SIGMOD (https://sigmod.org/)**, **CIDR (http://cidrdb.org/)**, **PODS (https://sigmod.org/pods-home/)**, and **ICDE (http://tab.computer.org/tcde/icde_conf.html)**.

When selecting your paper to critique, be aware that two of the three papers will form the foundation of your research proposal. In other words, you should select two papers to discuss research in the same area . It is strongly encouraged that you discuss your paper choices with your project TA. Your project TA can also help with selecting papers if a student is having challenges finding papers.

Complete the critique

You should read the paper thoughtfully and perhaps some of the cited works to complete the critique. Each critique should be 1 full page (letter size, 1-in margins, 12-size font, and single-space; excluding images and references). The critique should follow the below structure:

1. In your own words, please describe:
   What is this paper about?
   What is the research problem that the author(s) try to solve?

What are the key findings of the paper?

What are the main contributions of this paper?

2. In your own words, please describe:

    What are some prior works that this paper is based on?

    How did this paper differentiate/utilize/contribute to prior works?

3. Very concisely, describe in your own words:

    How did they evaluate their proposal?

    What is the experimental method and techniques used in this research paper?

4. In detail, describe:

    What aspects of the work described in this paper that you think the authors developed very well?

    What aspects of the work described in this paper that you think the authors DID NOT develop well?

    Is there anything that you think could have been done differently?

    Is there anything that you think needs additional justification?

5. Conclude the paper by answering:

    What experiment would you design or a method would you suggest as a follow-up to this study?

    What are some ideas you might want to explore?

    How do you think this can be applied to real-world applications?

Rubrics:

Each of these questions will be graded between 0-5. The full mark for 1 critique is 25 points.

Grade	Criteria
1. Critical Thinking (5)	The response is thoughtful and novel, not just plain paraphrases of the original paper.
2. Understanding (5)	The response presents an understanding of the paper. The response tried to make appropriate connections to the core idea of the paper.
3. Analysis and interpretation (5)	Demonstrated some degree of analysis and interpretation. The response showed that you had tried to analyze or interpret some of the points made by the authors.
4. Structure (5)	The response is well structured. The content is logical and easy to follow. The argument makes sense and is reasonable.
5. Wording and Narrative (5)	The writing is of high quality. There are little to no mistakes in grammar and spelling. Sentences flow smoothly.

Receives 0 if nothing is being submitted or **the selected paper does not match the paper selection criteria**.

Part 2: 1 Research proposal (25%)

Based on **two of the three papers that you critiqued in the semester**, you should submit a 2 page (letter size, 1-in margins, 12-size font, and single-space; excluding images and references) proposal that describes a research proposal. Based on your previous paper critiques and the feedback from your project TA, think about how you could extend upon research work presented in the papers you critiqued. Try to identify some limitations of the research papers, evaluate how these findings can connect with real-world problems, or compare and contrast claims from different papers. You should explain your motivation, a short description of the two papers, and the question you want to work on.

In particular, your proposal should include the following:

1. What is the motivation of this experiment or method you are suggesting? Why is this an important topic to research? What inspired you to propose this project?
2. What are some existing works related to your proposed plan? Has anyone done something similar? Where do you think your proposal differs?
3. What are the research questions that you would want to explore?
4. How do you plan to answer each of these questions listed in (3)? Think about how you will collect data, design the experiment or test your hypothesis?

Rubrics:

When designing your proposal, you are expected to explore additional research papers and cite related work. However, you are not expected to complete the research. Specifically, we grade your proposal based on the following rubric, again each with a 5-point Likert scale:

Grade	Criteria
1. Critical Thinking (5)	The proposal is thoughtful and novel, not just plain paraphrases of prior survey papers. The research questions raised are interesting and reasonable
2. Understanding of the subject (5)	The proposal presents an understanding of the subject matter. The proposal connected the two papers you critiqued and additional papers in the field. (you should cite the two papers at the minimum)
3. Proposal Content (5)	The proposal content is clear and detailed. The reader is able to describe how the research can be carried out from the description.
4. Proposal justification and feasibility (5)	The proposal is logical and justifiable (i.e. through prior research). The proposal is also feasible.
5. Structure, wording, and narrative (5)	The writing is of high quality. There are little to no mistakes in grammar and spelling. Sentences flow smoothly.

Receives 0 if nothing is being submitted or **the proposal is not based on two of the three submitted paper critiques.**

F&Q

We will list questions and responses here as they were submitted.