

# The CS4795 Project

Jong-Kyou Kim, PhD

2023-10-31

## 1 Introduction

- Throughout this semester, we learned the basic concepts of AI and its application of them focusing on searching and learning
- The purpose of the final project is to get an in-depth experience by solving practical problems
- Neither the problem nor the solution is expected to be unique. Just study a subject in-depth and try to apply it using the knowledge you learned this semester.
- I suggest two candidate problems but you can suggest your own
  - A: Pattern recognition (digits, fashion, etc.)
  - B: A creative heuristic approach for solving A\*-search (e.g., TSP, n-Queens etc.)
  - C: An elective subject of your choice

## 2 Important dates

- Proposal presentation: Nov 14 (your rough idea)
- Presentation: Dec 5 (final result)
- Paper: Dec 7 (a written explanation with more detailed information such as bibliography)

### 2.1 Proposal

- Your choice of the subject and a short description
- A list of bibliography that you think are relevant to your study
- Your github repository for the project
  - dataset
  - code
  - proposal
  - report

## 2.2 Presentation

- Ground truth
  - A: State-of-the-art research result
  - B: Your heuristic applied to a given data set
- The most interesting idea you've found
- The difference between your implementation and the idea
- Impressive results which disclose the limitation
  - What were the most striking successes?
  - What were the most striking failures? (show pictures if possible)
- Your suggestion to improve the implementation

## 2.3 Final paper

- Abstract
  - Important findings from the implementation
- Introduction
  - Why did you choose an idea to implement
  - What did you learn from it
- The problem
  - Explain the problem to a 7th-grade student
- Key idea
  - Explain the idea to your friend
- The details
  - What is the overall performance
  - What were the most striking successes?
  - What were the most striking failures? (show pictures if possible)
- Related works
  - What other ideas are there and the reason why you didn't choose them.
- Conclusion
  - Summarize your work
  - State your contribution (What would be useful for other students)
  - Suggest future works
- Bibliography

- Include the bibliography you found relevant to your project.
  - Each bibliography should appear in the body of the final paper.
- Appendix
  - The source code
  - The failed data set