



AI Course Project

Students are asked to form project teams of 5 students at a maximum for each. Each team will develop an AI application using the techniques learned in the class or similar techniques through appropriate programming languages and environments. Each project group should choose one of the following problem areas:

- Intelligent Agent Design (Chapter 2)
- Optimal Search (Chapter 3)
- Heuristic Search (Chapter 4)
- Machine Learning (Chapters 19-22)

After selecting the project problem, the team should also choose at least one proper algorithm to solve the chosen problem.

Project Deliverables:

- **Project Report:** Complete documentation that introduces and describes the details of the used robot and the developed application. **(17 Grades)**
 - **Project Presentation:** 5-minute audio presentation, all team members should introduce themselves and explain part of the project. **(8 Grades)**
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Due Time:

- May 24, 2023.
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Report Layout

1. Title Page - Include Project Title, Date, Course, and Team Members.
2. Table of Contents
3. Report Body
 - I. **Introduction/Executive Summary:** Introduce the project problem and its formal definition and importance. Analyze the considered problem solvers and algorithms. Introduce the selected algorithm invoked to solve the considered problem.
 - II. **Methodology:** Describe the main algorithms and analyze their steps. Give the formal algorithmic steps of the selected methods to solve the considered problem, including pseudocodes and/or flowcharts. Discuss how such algorithms can solve the considered problem and analyze its time complexity.
 - III. **Experimental Simulation:** Describe the programming languages and environments used in the project. Discuss the details of programming the primary function and its procedures used to implement the introduced algorithms in Section II. Explain the test cases used to test the programmed codes and how to set the program parameters and constants.
 - IV. **Results and Technical Discussion:** Report the main program results and outputs. Test/Evaluation experimental procedure and analysis of results. Discuss the main results and their quality.
 - V. **References**
 - VI. **Appendix A:** Project Source Codes.
 - VII. **Appendix B:** Project team plan and achievement.
 - VIII. **Appendix C:** Link to the presentation file.



Evaluation Rubric

Presentation Rubric					
Criteria	4. Superior command	3. Good control	2. Fair/some control	1. Minimal or no control	Marks
Knowledge	The student has presented full knowledge of both problem and solution. Answers to questions are strengthened by rationalization and explanation.	The student has competent knowledge and is at ease with information. Can answer questions but without rationalization and explanation.	The student is uncomfortable with information. Seems Novice and can answer basic questions only.	The student has no or very less knowledge of both problem and solution. Cannot answer questions.	/4
Presentation	The student confidence is noteworthy. Builds trust and holds attention by direct eye contact and natural hand gesture adopted to the content.	The student's confidence is good. Holds attention by consistent use of direct eye contact with the audience.	The student's confidence is Ok. Only focuses on one part of the audience. Does not scan the audience.	The student lacks confidence. Does not attempt to look at the audience at all. Reads notes or looks at a computer screen only.	/4
Total					8

Report Rubric					
Criteria	5 or 4. Superior command	3. Good control	2. Fair/some control	1. Minimal or no control	Marks
Style	Preliminary pages are as required. Tables and figures have the proper captions. Complete references are given.	Preliminary pages are as required. The tables and figures have the proper captions. Adequate references are given.	Preliminary pages are as required. Title of tables and figures can be improved. References are given occasionally.	Preliminary pages are not as required. Improper caption of tables and figures. References are incomplete and incorrect.	/4
Contents	Material content is clear and concise. Accurate details are present to support the main idea. Significant points are well identified	Material content is clear and appropriate. Some details are present to support the main idea. Significant points are identified	Material content is Appropriate. Some details are present to support the main idea. Some of the significant points are identified	Material lacks the relevant content. Details lack a clear connection to the purpose. Everything seems as important as everything else.	/4
Language	There are no errors that impair the flow of communication. Perfect with <5 errors. No plagiarism.	Occasional errors that have only minor impact on flow of communication. Good with <10 errors. Few plagiarisms.	Frequent errors that impede the flow of communication. Ok with <15 errors. Moderate plagiarisms.	Errors are serious and numerous. Reader must stop and reread and may struggle to discern the writer's intention. A lot of plagiarisms.	/4
Technical	Requirements and specification are technically sound and provides state of the art in terms of technical details.	The report does include a fair amount of detail about requirements and specification.	The report provides a shallow overview of requirements and specification.	The report gives little to no detail about requirements and specification.	/5
Total					/17