JOINT SUMMER SCHOOL IN INFORMATION SCIENCE

FINAL PROJECT REPORT

NAME OF THE TEAM'S PROJECT

AI CHATBOTS MODULE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
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|  | Student 2 |  |  |  |
|  | Student 3 |  |  |  |
|  |  |  |  |  |

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**Abstract:** Write this abstract in one paragraph, 250 words or less, and answer the following questions: 1. What is the subject and purpose of the project? 2. What is the primary motivation behind the project? 3. How project requirements are accomplished (methodology)? 4. What technology and tools are employed? 5. What are the main results and conclusion? Despite addressing the listed questions, the abstract should be written with logical connections between the answers, maintaining high coherence.

**Key words:** 4 to 8 key words from generic to specific

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# Introduction

Introduce the project by describing its purpose, significance, and objectives. Include a brief overview of the chatbot’s intended use case and target audience. This section should include 🡪 Project Scope

Clearly define the scope of the chatbot project. Discuss what functionalities were implemented and what was deferred as future work. This section should set the boundaries for what the project aims to achieve.

# Literature review

Review existing AI chatbots, relevant technologies, and related research. Discuss how your project relates to or differs from these examples. This section provides context and justifies the approach taken in your project.

# Methodology

Describe the methodology used in developing the chatbot. Include gathering design requirements, tools, frameworks, and technologies chosen and the rationale behind these choices. Explain the development process, including critical phases.

## Use-Case identification

Specific use cases should be outlined based on stakeholder feedback/interviews and requirement analysis.

## Functional specification

Explain how you end up with the list of desired functionalities and shortly describe each one in the list; also highlight future work with appropriate argumentation.

## Design and architecture

Present the design and architecture of the chatbot. Include diagrams (e.g., flowcharts, system architecture) to illustrate the overall structure and data flow. Discuss the dialog management system, NLP components, and any external integrations.

## User interface and user experience

Discuss the design of the user interface (UI) and the user experience (UX) considerations. Even if the UI/UX design is minimal, describe the choices made and how they contribute to user interaction with the chatbot.

# Implementation

Detail the implementation process, including how each functional and non-functional requirement was addressed. Describe the coding and development practices followed, any challenges encountered, and how they were resolved. If you use a platform for ChatBot implementation, focus on that part.

## Using LLM sin AI Chatbot

## Handling chat memory

## Knowledge database

(and tools if you use them)

## Testing

Describe the iterative development approach → must describe the prompt design process.

Include the reference on how one can access your testing model!

# Challenges and limitations

Outline any challenges faced during the project and how they were addressed. Discuss the limitations of the current implementation and what could be improved in future iterations.

# Future work

Identify areas for future work, including any functionalities, integrations, or improvements that still need to be completed due to time constraints. Provide a roadmap for how these could be implemented in the future.

# Conclusion

Summarize the project’s key findings and achievements. Reflect on the overall experience, including what was learned and how the project could impact future work in AI chatbots.

References

List all the sources cited in the report using an appropriate academic citation style (e.g., APA, IEEE). This section ensures proper credit is given for any external information used in the project.

Appendix

Include any additional material that supports the report, such as code snippets, detailed test results, user feedback, or extended diagrams. Appendices provide supplementary information without cluttering the main report.