INTELLISEARCH

INTELLIGENT EMPLOYEE DATA ACCESS SYSTEM

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Mr. Amarnath J.L
Assistant Professor

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY
IN

COMPUTER SCIENCE AND ENGINEERING

At

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PRESIDENCY UNIVERSITY

BENGALURU

JANUARY 2025

PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"INTELLISEARCH" INTELLIGENT EMPLOYEE DATA ACCESS SYSTEM"** being submitted by "AYESHA KHANUM, ASMI TANZAEN H N, K VENKAT SAI, K A PRAJWAL" bearing roll number(s) "20211CSE0539, 20211CSE0543, 20211CSE0488, 20211CSE0494" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

16/1/2025.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **"INTELLISEARCH" INTELLIGENT EMPLOYEE DATA ACCESS SYSTEM** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of our own investigations carried under the guidance of **Mr. Amarnath J.L, Assistant Professor, School of Computer Science Engineering & Information Science, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

AYESHA KHANUM	**ASMI TANZAEN H N**	**K VENKAT SAI**	**K A PRAJWAL**
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ABSTRACT

This project introduces an AI-powered conversational chat-bot tailored to streamline employee information retrieval and management processes. By integrating advanced natural language processing (NLP) techniques with a secure backend database, the chat-bot provides accurate, real-time responses to queries about employee details such as roles, salaries, attendance, and performance metrics. The system addresses inefficiencies in traditional methods by automating repetitive tasks, reducing manual effort, and improving response accuracy.

The solution is structured into modular components: synthetic employee data generation using Python libraries, data preprocessing with pandas, machine learning-based model development using Tensor-Flow, and an interactive frontend built with React. The chat-bot employs NLP techniques, including tokenization and named entity recognition, to enhance query understanding. Security is a core focus, with features like role-based access control (RBAC), OAuth 2.0 authentication, and encrypted data handling to ensure user privacy and protection.

The expected outcomes include a highly responsive chat-bot with query response times under two seconds and an accuracy rate of over 90%. It significantly enhances organizational productivity by automating data management tasks and reducing the time spent on manual lookups. Future plans involve integrating live databases for real-time updates, expanding functionalities to include performance analytics and HR tools, and adapting the system for diverse industries such as healthcare, education, and finance. This project represents a scalable, innovative approach to modernizing employee management systems using cutting-edge AI technologies.