Project Submission Document

❖ **Project Title :** Inter Track - Intern Performance and Intelligence Management System

❖ **Project Type:** Industry-Grade Team Project

❖ **Summary :**

This project focuses on developing an AI/ML-based system to analyze and track intern performance. The system evaluates intern data using machine learning techniques to generate performance scores and insights. It provides visual dashboards for monitoring progress and identifying skill gaps. The platform supports data-driven decision-making through automated analysis and recommendations. Overall, it reduces manual evaluation and improves the efficiency of intern performance management.

❖ **Features Implemented:**

1. Intern Profile Management
2. Learning Activity & Engagement Tracking
3. Skill Gap Analysis
4. AI-Based Learning Recommendation System
5. Project & Task Recommendation
6. Performance Scoring System
7. Analytics & Visualization Dashboard
8. Risk Identification & Alerts
9. Mentor & Admin Decision Support
10. Automation & Scalability

❖ **Technology Stack Used:**

- **Programming & Framework**

· Python 3.8+ - Primary programming language
· Streamlit 1.40.0 - Web framework for frontend & backend
· Pandas 2.2.2 - Data manipulation & analysis

- **Visualization**

· Plotly 5.24.0 - Interactive charts & graphs
· Plotly Express - Simplified plotting

- **AI & Machine Learning**

· Google Generative AI 0.8.2 - Gemini Pro & Flash models
· Gemini 1.5 Pro - Advanced analysis & quiz generation
· Gemini 1.5 Flash - Fast feedback & recommendations

- **Database**

· SQLite3 - Embedded database (built-in Python)

· SQL - Database operations

- **Security & Configuration**

· Python-dotenv 1.0.1 - Environment variable management
· Hashlib - Password hashing (built-in)
· UUID - Unique identifier generation

- **Data Processing**

· JSON - Data serialization & storage
· Datetime - Date/time operations (built-in)
· Random - Random data generation (built-in)

- **Version Control & Packaging**

· Pip - Package management
· Requirements.txt - Dependency specification

❖ Project Progress Summary (2 Weeks)

- Week 1

1. Finalized project problem statement and objectives.
2. Designed system architecture and workflow.
3. Defined roles and responsibilities within the team.
4. Created database schema and initial dataset.
5. Developed basic UI layout and backend structure

- Week 2

1. Implemented machine learning model for performance analysis
2. Developed backend logic and APIs for data processing
3. Integrated database with backend and UI
4. Created data visualizations and performance dashboards
5. Performed testing, bug fixing, and final integration

❖ Challenges & Learnings

- **Issues Faced During Development**

1. Difficulty in structuring and cleaning real-world intern data
2. Integrating ML models with backend APIs
3. Handling database connectivity and data synchronization
4. Debugging UI and backend integration issues
5. Time management while coordinating team tasks

- **Key Learnings From the Project**

1. Gained practical experience in end-to-end AI/ML system development
2. Improved understanding of data preprocessing and feature selection
3. Learned backend API integration with ML models
4. Enhanced teamwork, communication, and project planning skills
5. Developed problem-solving and debugging abilities