Aikshetra Tech Solutions Pvt. Ltd.

Empowering Innovation Through AI, Cloud & HPC

AI, ML & Full Stack Capstone Project Handbook

Workshop Edition — Designed for Student Innovation & Practical Learning

1. AI-Powered Personal Finance Tracker

Concept: Tracks income and expenses with AI budget suggestions.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

2. AI Resume Screening System

Concept: Analyzes and scores resumes using NLP.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

3. Smart Health Prediction System

Concept: Predicts health risks using machine learning.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

4. AI Chatbot for Student Support

Concept: AI chatbot for answering academic queries.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

5. Real-Time Emotion Detection System

Concept: Detects facial emotions using CNN and webcam feed.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

6. AI-Powered News Summarizer

Concept: Summarizes trending news using NLP.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

7. Smart Crop Recommendation System

Concept: Recommends crops based on soil and weather data.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

8. Virtual Internship Management System

Concept: Tracks student internships and mentor feedback.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

9. AI-Based Code Reviewer

Concept: Analyzes and reviews code automatically.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

10. Smart Traffic Monitoring System

Concept: Monitors congestion and accidents using AI vision.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

11. Personal AI Study Planner

Concept: Creates optimized study schedules using AI.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

12. Real-Time Object Counting System

Concept: Counts vehicles/people using YOLO models.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

13. Job Recommendation Platform

Concept: Recommends jobs based on skills and resume.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

Expected Deliverables: A functional AI-ML integrated project ready for deployment.

14. AI Voice Assistant for Developers

Concept: Voice-activated assistant for coding tasks.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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15. AI-Powered Document Q&A; System

Concept: Ask questions from uploaded documents.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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16. AI-Powered Music Recommendation Engine

Concept: Recommends songs based on user mood.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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17. Smart Waste Management System

Concept: Detects waste type and optimizes collection routes.

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Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

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API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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18. Real-Time Sign Language Translator

Concept: Translates sign language gestures into speech.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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19. AI-Based Email Summarizer

Concept: Summarizes Gmail messages intelligently.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

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API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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20. Facial Attendance System

Concept: Marks attendance via facial recognition.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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21. AI-Powered Fitness Tracker

Concept: Monitors workouts and predicts progress.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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22. Real-Time Disaster Alert System

Concept: Detects disasters and sends real-time alerts.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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23. AI-Based Recruitment Portal

Concept: Automated recruitment with AI scoring.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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24. AI Customer Support Bot

Concept: AI chatbot for customer support automation.

Frontend Modules: React dashboard, HTML/CSS interface, Chart.js, and responsive UI.

Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

AI/ML Modules: ML models, NLP, or AI APIs integrated for intelligent processing.

API Integrations: Google, Gemini, OpenAI, or third-party APIs depending on use case.

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25. Smart Home Automation with Voice Control

Concept: Controls home IoT devices via voice commands.

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Backend Modules: Flask/Django REST APIs, Database (SQL/MongoDB), Authentication and data management.

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