SHUBHAM MISHRA

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EDUCATION

Netaji Subhas University of Technology Delhi

Bachelor of Technology - ICE | CGPA : 7.8   *(2022 - 2026)*

INTERNSHIP EXPERIENCE

Emertxe Technologies | Embedded systems Intern | *Link*   *(May 2025 - July 2025)*
- Developed and simulated a microcontroller-based embedded system using Embedded C in MPLAB IDE with a PIC microcontroller, leveraging PICSimulator IDE to validate system logic across multiple operational states.
- Programmed timers, CLCD, and LEDs from scratch, simulating various inputs to observe outputs, delays, and error handling using PICSIMLAB.
- Implemented state machine logic to handle timing, sensor input, and actuator for automated washing cycles. Gained hands-on experience with embedded C programming, real-time system design and debugging.

PROJECTS

AI PDF Summary Agent | *Python, n8n, Flask, Streamlit, Ollama, TailwindCSS*   *(Source Code)*
- Orchestrated a full-fledged automated PDF summarization pipeline in n8n, starting with a webhook to receive PDF inputs, followed by file handling and Ollama node and extraction nodes in the backend.
- Integrated the Ollama LLM node to process extracted text and generate concise summaries, while leveraging conditional and transformation nodes for structured workflow management.
- Implemented logging, error handling, and scalable automation across all nodes, delivering a robust, end-to-end AI-driven document summarization system.

AI Travel Agent Chatbot | *Python, Langchain, Langgraph, Redis, Ollama, HuggingFace*   *(Source Code)*
- Built a memory-enabled AI travel assistant using LangGraph and Redis with dual-memory: short-term via RedisSaver and long-term in RedisVL.
- Implemented semantic vector search, smart deduplication, and LLM-invoked tools for storing/retrieving memories, combined with conversation summarization to maintain context and optimize token usage.
- Created an end-to-end LangGraph workflow for user interaction, tool execution, and context management, enabling personalized, context-aware travel recommendations.

AI Water Tracker App | *Python, SQL, Ollama, FastApi, Streamlit*   *(Source Code)*
- Developed a Streamlit-based frontend enabling users to submit water intake entries with user ID tracking and real-time input validation.
- Engineered a FastAPI backend that persists user data in SQLite, performs aggregation of daily and cumulative intake, and exposes REST endpoints for secure data retrieval and updates.
- Integrated an LLM pipeline to analyze aggregated intake metrics and generate personalized hydration insights and recommendations programmatically.

Fraud Detection Model | *Python, Pandas, Numpy, Seaborn, Scikit-learn*   *(Source Code)*
- Implemented a fraud detection pipeline using Logistic Regression, leveraging engineered transactional features and data preprocessing.
- Achieved ~96% classification accuracy for detecting anomalous and high-risk transactions in real time.

TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript (ES6+), SQL, HTML/CSS
AI/ML & Data Frameworks: LangChain, LangGraph, FastAPI, PyTorch, TensorFlow, scikit-learn, OpenAI API
Databases & Storage: Vector Databases (ChromaDB, FAISS, Qdrant), SQLite, PostgreSQL, Firebase
Developer Tools: Git, Appwrite, VS Code, Vercel, Netlify, Unity

ACHIEVEMENTS
- Elite + Gold certified in NPTEL with 92% in R Programming and 94% in Internet of Things.   *(Link)*
- Solved 155+ LeetCode problems with 86% acceptance rate.   *(Link)*