

Manoj Kumar

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EDUCATION

Delhi Technological University
B. Tech in Mathematics and Computing Engineering
◦ CGPA: 8.6

2020-2024

WORK EXPERIENCE

Web Developer

TerraDX Technologies Inc.

Remote

Feb 2024 – Present

- Worked on **QuantumDX**, a raster image compression platform for Geotiff files, utilizing **Next.js** and **FastAPI**. Integrated **Mapbox API** for visualization and managed Geotiff processing with Docker in **Azure Kubernetes Services (AKS)**.
- Engineered **GAIA**, a Retrieval-Augmented Generation (RAG) chatbot, using **Next.js** and **TypeScript** for the frontend and **FastAPI** for the backend. Leveraged **OpenAI's LLM** and **LangChain**, achieving a 3-second average response time with user data stored in **CosmosDB**.
- Built a multi-agent chatbot system using **OpenAI** and **Anthropic** APIs for natural language-driven code generation, automating tasks from architecture to bash script creation via **React Flow**.
- Developed a data scraping pipeline for geological portals, employing **Selenium**, **BeautifulSoup**, **Azure Blob Storage**, and **Databricks** to enhance data acquisition workflows.

Web Developer Intern

BUZZONEARTH

Bengaluru

Jun 2023 – Jul 2023

- Developed a website using **React.js** for the **Climate Hackathon** at IIT Kanpur, engaging 40+ teams.
- Created responsive user interfaces with **React.js** and **Bootstrap**, enhancing user interaction.
- Built the **India MUN** website with **React.js** and **Firebase**, facilitating registration for 100+ students in the **Young Forest Ambassador** program.
- Integrated **Firebase** for authentication and database functions, **Razorpay** for payment gateway, supporting registration and progress tracking for over 4000 students.

PROJECTS

AI-AGENTS FOR TRADING & RISK MANAGEMENT SYSTEM

(Python, Phidata, Groq LLM, OpenBB, YFinance, DuckDuckGo, Newspaper4k)

- Engineered a **multi-agent trading system** using **Phidata**, integrating **Groq LLM**, **YFinance**, and **OpenBB** for real-time market analysis and risk assessment.
- Implemented **DuckDuckGo** and **Newspaper4k** for sentiment analysis, enabling **TradingRiskOrchestrator** to generate intelligent trade recommendations.

WORKSPACE

(React.js, Firebase)

[link](#) 

- Deployed a sophisticated **Project Management** tool leveraging **React** and **Firebase**; facilitated seamless task management, assignment, and tracking, achieving a 40% increase in team productivity and optimizing workflow efficiency.
- Implemented secure user authentication and real-time updates with **Firebase**, improving task collaboration efficiency by 30%.

ADVANCED YELP-CAMP

(Node.js, Express.js, MongoDB, Google Maps API)

[link](#) 

- Created a website allowing users to view and add new campgrounds, with locations displayed using **Google Maps API**.
- Integrated user authentication using **Passport.js**, enabling sorting of campgrounds by price, recency, or rating. Hosted on **Vercel** with a 99.9% uptime.

TECHNICAL SKILLS

Languages: C++, HTML, CSS, JavaScript, Python, SQL, TypeScript

Frameworks/Libraries: Next.js, Node.js, Express.js, Mongoose.js, React.js, Bootstrap, Matplotlib, Tailwind, FastAPI, Selenium, BeautifulSoup

Databases: MongoDB, MySQL, PostgreSQL, Firebase, CosmosDB, Azure Blob Storage

Concepts: Data Structures and Algorithms (DSA), Operating System (OS), Database Management System (DBMS), Object Oriented Programming (OOP), Machine Learning, Asynchronous Programming, Scalable Architecture

Machine Learning: Random Forest, XGBoost, SVM, KNN, Clustering, LangChain RAG, GPT-4 LLM

Tools/Platforms: Azure Databricks, Vercel, Jira, Confluence, Slack, Miro Board, Webflow, Docker, Kubernetes