

MANTHAN MITTAL

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PROFILE

MSc Artificial Intelligence graduate with a background in IT and practical experience in robotics simulation and full-stack development. I am currently building predictive models for business data and working as a freelance developer. Skilled in Python, C++, and cloud infrastructure, with a focus on creating working, scalable solutions.

TECHNICAL SKILLS

- Robotics & Simulation:** ROS2, Gazebo, TurtleBot, LIDAR Integration, PID Control, Fuzzy Logic.
- AI & Machine Learning:** TensorFlow, PyTorch, Scikit-learn, Neural Networks (CNN/RNN/GNN), LLMs, RAG.
- Languages:** Python (Advanced), C++, JavaScript, Java, SQL.
- Frameworks:** React, Node.js, Express.js.
- Cloud & Databases:** Oracle OCI, AWS, Firebase, MongoDB, SQLite.

EXPERIENCE

- KM Steel** Remote (UK/India)
AI & Data Analytics Dec 2024 – Present
 - Cleaning and processing large datasets to improve reporting accuracy for an international client.
 - Building predictive models using Python (Scikit-learn, Pandas) to forecast sales and track performance.
 - Creating interactive dashboards to help management visualize KPIs and make quicker decisions.
 - Collaborating directly with the operations team to fit these data insights into their daily workflow.
- Freelance Developer** Remote
Full-Stack & Automation Developer 2019 – Present
 - Delivering custom web solutions for clients, including a full-stack e-commerce platform for Indian Sarees.
 - Building automation scripts (Web Task Autopilot) using Selenium to handle form-filling and data extraction.
 - Managing the full project lifecycle from gathering client requirements to final deployment and hosting.
- Silver Touch Technologies Ltd.** Ahmedabad, India
Android Development Intern Jan 2022 – Apr 2022
 - Developed a real-time chat app using the Android SDK and Java.
 - Built the backend with Firebase and Express.js to handle message transmission and user login.
 - Fixed bugs related to real-time database synchronization across different devices.
- CAD DESK** Jaipur, India
Python Programming Intern June 2021 – July 2021
 - Completed training on Python core methodologies and delivered small automation projects on deadline.

PROJECTS

- Autonomous Robot Navigation System** | ROS2, Gazebo, C++, Fuzzy Logic
 - Built a wall-following robot simulation using LIDAR data and a PID controller.
 - Implemented a Fuzzy Logic system to detect obstacles and adjust velocity in real-time.
 - Designed a hybrid architecture that switches behaviors based on environment thresholds.
- DocInsight: Retrieval Q&A Engine (RAG)** | LLMs, Vector DB
 - Created a RAG system to query unstructured PDF documents with context filtering to ensure accuracy.
- Rossmann Store Sales Forecasting** | TensorFlow, XGBoost
 - Processed over 1 million sales records for 1,115 stores.
 - Compared XGBoost against Deep Learning models (LSTM, RNN) to capture time-based trends.
 - Tuned the model to minimize RMSPE (Root Mean Square Percentage Error) for seasonal data.
- Narrative-to-Clip Generator** | Python, PyTorch, Transformers
 - Built a diffusion-based system to generate short video clips directly from text prompts.

EDUCATION

- University of Essex** United Kingdom
MSc in Artificial Intelligence Oct 2023 – Oct 2024
- Ahmedabad Institute of Technology** Gujarat, India
Bachelor of Engineering in Information Technology 2018 – 2022

CERTIFICATIONS

- Oracle Cloud Infrastructure 2025 Certified AI Foundations Associate
- Programming with Python and IoT Perspective – Panjab University (2021)