

# DEEP RATHI

## Software Engineer

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LinkedIn

Github

Portfolio

## EXPERIENCE

### Data Scientist Intern

#### Cybersurf India

Aug 2023 – Oct 2023

Ahmedabad (On-Site)

- Designed and deployed a traffic prediction model for Ahmedabad Municipal Corporation using pincodes, weather data, and other parameters, achieving 88% accuracy with a Random Forest Classifier.
- Analyzed HR data for 1,435 employees, identifying key trends and reducing employee turnover by 15% through actionable, data-driven insights.
- Cleaned and processed 10,000+ rows of data, enhancing data quality and boosting model accuracy by 98%.

### ML Intern

#### Remasto

Feb 2025 – Present

Remote

- Created a custom AI avatar lip sync model, generating videos from audio inputs in under 5 seconds.
- Developed a real-time job portal, feeding live job data from LinkedIn into the database in seconds.
- Fine-tuned LLaMA 3 on 40,000+ questions for automated question generation.

### Research Intern

#### SUNY Binghamton

Jan 2022 – Oct 2022

Remote

- Contributed to "LaneScan Net", a deep learning model for detecting obstacle lane states, by collaborating with researchers from VIT and SUNY Binghamton.
- Assisted in labeling and preparing 10,000+ images from VIT's driving dataset, enabling effective model training and validation with a 15% improvement in detection accuracy.

### Software Intern

#### Wajra

Jan 2023 – March 2023

Remote

- Developed an IoT-based fruit ripeness detection system using OpenMV, CNN, and transfer learning, achieving 89% accuracy.
- Enhanced model performance through advanced image cleaning techniques.

## ACHIEVEMENTS

- Achieved 1st place in the renowned 2024 AI Hackathon organized by IIM Ahmedabad.
- Advanced to the final round of Consultathon 4.0, organized by BITS Goa.
- Publication:** PrecisionEdge project accepted and published in Scopus. [Acceptance email](#)

## EDUCATION

### B.Tech - Information Technology

#### Vellore Institute of Technology, Vellore

Expected Graduation: July 2025

- CGPA: 8.7

## PROJECTS

### PrecisionEdge - A Data Analysis AI Agent

#### GitHub Link

- Developed PrecisionEdge, an AI-powered data analytics platform automating 80% of preprocessing, including cleaning, transformation, and feature selection using LLMs.
- Enhanced efficiency by reducing processing time 40%, integrating parallel processing and automated model selection with Python, Pandas, and Scikit-learn.

### GROW - AI Powered Learning Enhancement

#### GitHub Link

- Developed GROW, an AI-driven web platform that generates personalized learning paths in under 5 seconds, leveraging GROQ LLM API with Python and Streamlit.
- Implemented interactive timelines, progress tracking, and export functionality to .docx, enabling structured learning plans.

### DeribitTradingSystem - A Crypto Trading Platform

#### GitHub Link

- Engineered a low-latency C++ trading system for Deribit, achieving sub-5ms order execution, supporting 100+ trading pairs across spot, futures, and options markets, with a 50% improvement in throughput using thread pooling and SIMD optimizations.
- Developed a high-performance WebSocket server handling 10,000+ real-time connections, broadcasting order book updates in under 1ms, and reducing network overhead by 30% using cURL handle pooling and memory-efficient data structures.

## SKILLS

- Languages:** C++, Python
- Frameworks & Technologies:** TensorFlow, Keras, Sci-kit Learn, PyTorch, OpenAI's GPT Models
- Tools & Platforms:** Git, GitHub, Tableau
- Coursework:** Data Structures, Algorithms, Operating Systems, Computer Networks, Database Management, Machine Learning, Blockchain

## CERTIFICATIONS

- CloudyML - Machine Learning
- Udemy - Full Stack Development
- GCCF - Google Cloud Computing Foundation