Nischay Vermani

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EDUCATION

Indian Institute of Technology, Roorkee <div align="right">Uttarakhand, India</div>

Bachelor of Technology in Electrical Engineering <div align="right">*2022 - Present*</div>

PROJECTS

FinGPT-RAG (GitHub Repo) | *LangChain, Hugging Face, FAISS, Python*
- Developed a **Retrieval-Augmented Generation (RAG)** system for financial Q&A using **LangChain, Hugging Face**, and **FAISS**.
- Processed and vectorized **1,500+ RBI financial PDF pages** using SentenceTransformers embeddings for semantic retrieval.
- Integrated a cloud-based **Hugging Face LLM** for context-aware responses, achieving **92% context relevance**.
- Optimized retrieval pipeline to deliver **sub-second response times** with efficient chunking and query handling.

AI Resume Analyzer & Job Matcher (GitHub Repo) | *Python, NLP, Flask, Streamlit, scikit-learn, spaCy*
- Developed an AI-powered platform to process **800 resumes** against **200+ job descriptions**, achieving **87% accuracy** using TF-IDF vectorization and cosine similarity.
- Implemented spaCy-based Named Entity Recognition (NER) to extract **20+ skill categories**, enabling dynamic candidate-job fit scoring.
- Automated ranking algorithm reduced manual screening effort by **65%** during recruiter trials.
- Built a REST API in Flask and an interactive Streamlit dashboard with real-time analytics, supporting **15–20 concurrent** users at sub-second latency.

Student Performance Indicator (GitHub Repo) | *Python, scikit-learn, Pandas, Flask*
- Created regression models to predict student academic scores using **1,000 records**, achieving **R^2 of 0.88** and **MAE of 3.8 points**.
- Built an end-to-end ML pipeline including **data cleaning, feature scaling**, and polynomial feature generation.
- Optimized models with **GridSearchCV** across Linear Regression, Random Forest, and Gradient Boosting.
- Served predictions via Flask API, handling **500+ test requests** with zero downtime.

Twitter Sentiment Analysis (GitHub Repo) | *Python, NLP, scikit-learn, Flask, NLTK*
- Processed and analyzed **16,000+ tweets** using NLTK (tokenization, stopword removal, stemming) and TF-IDF vectorization.
- Built a Logistic Regression model for sentiment classification (**Positive, Negative, Neutral**) achieving **85% accuracy**.
- Optimized prediction pipeline to achieve **250ms** response time.
- Deployed a Flask-based API with HTML interface for interactive real-time sentiment checks.

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, HTML/CSS
Libraries & Frameworks: scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, NLTK, spaCy, Streamlit, Flask
Developer Tools: Git, GitHub, VS Code, Jupyter Notebook
Concepts: Data Structures & Algorithms, Data Preprocessing, Feature Engineering, Model Deployment, Natural Language Processing (NLP), Machine Learning (Classification, Regression)

CERTIFICATIONS & ACHIEVEMENTS

Silver Medal — Techshila 2.0 (AI Interview Platform) (Certificate) <div align="right">IIT Roorkee</div>

Competition
- Secured Silver by solving ML case studies and algorithmic challenges in an AI-powered interview simulator.

Leadership & Extracurricular

Hostel Council IIT Roorkee

Vice President *Oct 2024 – Present*

- Coordinated hostel-wide events and initiatives across a community of 10+ hostels, boosting student participation by 20%.
- Worked with administration and 200+ residents to improve hostel facilities, ensuring timely resolution of student concerns.