PRATIK RANA

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EDUCATION

Plaksha University, Mohali   Mohali, India
Bachelor of Technology, Computer Science & Artificial Intelligence, **CGPA: 7.99**   August 2022 - May 2026

Coursework: Data Structure, Algorithms, Database Management, Machine Learning, Computer Networks, Operating Systems, Object-Oriented Programming, Distributed Systems, Software Engineering, Data Analysis

EXPERIENCE

Havells India (R&D)   Noida, India
ML Research Intern   June 2024 - Present
- Developed a time series forecasting model using darts & TFlow, improving sales prediction accuracy by 12%.
- Crafted a scalable data pipeline using Apache Spark, processing historical sales data of over 60 SKUs for training.
- Integrated the sales forecasting tool with existing company systems, reducing manual data-entry time by 60%.

Smart Code Labs   Ludhiana, India
Data Science Intern   May 2023 - July 2023
- Engineered churn prediction models using sklearn and XGBoost, improving customer retention by 8%.
- Developed real-time dashboards visualizing business metrics, enabling a 12% revenue increase for a retail client.
- Optimized data pipelines with parallel processing, reducing weekly pre-processing time from 5 to 2 hours.

SKILLS

Languages: Python, C/C++, JavaScript, Bash, SQL (PostgreSQL, MySQL)
Frameworks: Django, Flask, Express, React, LangChain, FastAPI
Tools/Tech: Unix/Linux, Git, GCP, AWS, Node.js, Docker, HuggingFace, Postman, PowerBi, Jupyter, Mongodb
Others: PyTorch, Tensorflow, scikit-learn, Pandas, Shell Scripting, Natural Language Processing, Deep Learning

PROJECTS

NeuroTone.AI (_ML for Neurological Disorder Detection | Dr. Siddharth_)   Link
- Led a 4-person team to develop an audio-based Parkinson's detection model (87.46% accuracy).
- Implemented multi-layer Neural Network architecture, improving detection precision by 15% over previous models.
- World's first Parkinson's detection model that supports both English/Italian speech samples with >80% accuracy.

ImageCraft (_Full-stack AI Image Processing Platform | Pytorch, Flask, React, Docker | Open Source_)   Link
- Implemented image classification (82% accuracy) using MobileNetV3, fine-tuned on a dataset of 10000+ images.
- Created an image-to-text captioning model (0.74 BLEU score) based on ViT-GPT-2 using the COCO dataset.
- Built a distributed Flask backend with Celery for concurrent request handling, improving throughput by 3x.
- Containerized the application using Docker and deployed it on Docker hub and GKE for seamless scaling.

PodPit (_AI-driven podcast generation platform | Llama2, React, Flask, TailwindCSS | HackPlaksha'24_)   Link
- Engineered an end-to-end AI podcast creation platform that generates 20-minute podcasts in just 3 minutes.
- Integrated Llama2 for NLG, gTTS, and RVC for voice cloning, achieving human-like voice (MOS score: 4.2/5).
- Deployed JWT tokens for user authentication: personalized accounts for users to save their podcast preferences.

ACHIEVEMENTS

Bharti Airtel Scholar: Awarded By the Bharti Airtel Foundation. One of the 58 scholars nationwide.   Link

UN Fellow: Chosen from 44,000+ global applicants for leadership in addressing United Nations SDGs.   Link

IBM Quantum Qiskit Summer School'24: Gaining hands-on experience with Qiskit framework and implementing quantum computing algorithms. Explored applications in optimization, and machine learning.   Link

Reliance Scholar: Selected out of 40,000+ applicants nationwide for academic and leadership excellence.   Link

LEADERSHIP & EXTRACURRICULAR

Open Source | GSSOC'24 – _Conributor_
- Contributed to more than 8 organizations, resolving 25+ issues in AI/ML and Python backend projects.   Link

Healthec.AI – _Project Lead_
- Led a team of 6 and developed a remote healthcare platform, to increase healthcare access in the rural areas of Himachal.
- Recognized at United Nations and IIT Mandi's Himalayan Startup Trek 2023.   Link

Giving back to society – _Volunteer Teacher_
- Organised Workshops for career counselling and tutored underprivileged Grade X/XI/XII students around Tricity.