

PRATIK RANA

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EDUCATION

Plaksha University

Bachelor of Technology, Computer Science & Artificial Intelligence

Mohali, India

August 2022 - May 2026

Coursework | Data Structures, Algorithms, Object-Oriented Programming, DBMS, AI & ML, Computer Networks, OS.

EXPERIENCE

Havells India

ML Research Intern

May 2024 - July 2024

Noida, India

- Developed a **sales forecasting model** by implementing SARIMA, ARIMA & ETS algorithms that improved the sales prediction **accuracy by 12%**, aiding in the inventory management.
- Conducted **exploratory data analysis**, including plotting time series, checking for stationarity using **ADF test**, and applying differencing techniques to prepare sales data of **60 SKUs** for modelling.
- Utilized **rolling window** approach, **ensemble method**, and **cross-validation** to evaluate & optimize models.
- Implemented **grid search** to optimize model parameters(**p, d, q, lags**) and benchmarked multiple models (ARIMA, SARIMA, Theta, Croston, XGBoost) to identify the best-performing model for each SKU.
- Collaborated with **cross-functional teams** to deploy ML models into the **production environment**.

Tech Used | ML, API Development, Cloud Computing (AWS S3, Sagemaker), Optimization, Scalability, Python, Darts.

ACHIEVEMENTS

- 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 & tech solutions addressing the **UN SDGs**. [Link](#)
- Winner @ HackPlaksha'24** | **1st runner up** in the Hackathon. Designed PodPit in under 48 hours. [Link](#)
- Reliance UG Scholar** | Selected out of 40,000+ applicants nationwide for academic & leadership excellence. [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](#)

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** with **87.46% accuracy**.
- Implemented a **LSTM & RNN** based architecture, improving **precision by 15%** over previous models.
- World's first multilingual** Parkinson's detection model, maintaining **>80% accuracy** across three languages.

ImageCraft (Full-stack Image Processing Platform | Pytorch, Flask, React, Docker | Open Source)

[Link](#)

- Designed **image classification** model (**82% accuracy**) using **MobileNetV3**, fine-tuned it on a custom dataset.
- Created an **image-to-text** captioning model with (**0.74 BLEU**) score, based on **ViT-GPT-2** & COCO dataset.
- Reduced API response time by **3x** by building a **distributed Flask backend** for concurrent request handling.

PodPit (AI-driven podcast generation platform | Llama2, React, Flask, TailwindCSS | HackPlaksha'24)

[Link](#)

- Engineered an end-to-end **AI podcast platform** that generates **20-minute podcasts** in just **3 minutes**.
- Integrated **Llama2** for **Natural Language Generation**, **gTTS**, and **RVC** for human like voice quality.
- Enhanced user experience with **personalized accounts** by implementing **JWT token-based authentication**.

SKILLS

Languages | Python, C/C++, JavaScript, Bash, MATLAB, HTML/CSS, SQL (PostgreSQL)

Frameworks | Django, Flask, Express.js, React, LangChain, TailwindCSS, Next.js

Tools/Tech | Unix/Linux, Git, GCP, AWS (S3, SageMaker, EC2), Docker, HuggingFace, Postman, MongoDB

LEADERSHIP & EXTRACURRICULAR

Open Source | GSSOC'24 – Contributor

- Contributed to more than **8 organizations**, resolving 25+ issues in AI/ML and Python backend projects. [Link](#)

Healthec.AI – Project Lead | Javascript, GPT3, Node.js, Nginx

- Led a team of 6 and developed a **remote healthcare platform**, to increase **healthcare access in rural India**.
- Recognized at **United Nations** and **IIT Mandi's Himalayan Startup Trek 2023**. [Link](#)