Chirag Manish Bolakani

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EDUCATION

Vellore Institute of Technology, Vellore, India **Sep 2022 - Jun 2024**
Masters of Computer Applications (MCA) CGPA 8.93/10

K. C. College, University of Mumbai, Mumbai, India **May 2019 - Jun 2022**
Bachelors of Science in Information Technology (B.Sc. IT) CGPA 9.5/10

WORK EXPERIENCE

SpotinfoAI (Remote) **Aug 2024 - Present**
Software Development Engineer

- Developed **100+ Django REST endpoints**, integrating **JWT &** Google **OAuth2** for authentication.
- Enabled asynchronous **WebSocket** and **HTTP Streaming** handling via python **generators**.
- Achieved low-latency **LLM** responses (8s to 3s) via **Redis** caching, long term memory and prompt tuning.
- Integrated **Amazon S3** and **Google Drive API** into the application.
- Built a **FastAPI** service for managing **Livekit** rooms, enabling real-time voice communication. Deployed **Uvicorn server on EC2** (NGINX) and containers on **Google Cloud Run** for scalable production environments.

Nokia Networks, Chennai, India (In-Office) **Aug 2023 - May 2024**
Research and Development Intern

- Built a **Django**-based regression testing site with **automated test re-runs** and bulk comment updates, powered by a trained **Machine Learning (KNN)** model.
- Built a CI/CD pipeline in **Jenkins** for **ML-Ops** tasks (data collection, cleaning, pre-processing, and training), hosted Django ML backend on **Docker** with **mod_wsgi** and **Apache** on a **Rocky Linux server**.
- Developed visualization and analytical tools for **processing Broadcom Distribution Point Unit (DPU) logs**, enabling the **identification of anomalies** associated with **critical bandwidth issues**.
- **Led effort-reduction initiatives, achieving a 25% decrease in manual interventions.**

TECHNICAL PROJECTS

Human Presence Detection Using RF Signals [Link] **Oct 2022 - Jan 2023**

- Developed a controlled-environment human presence detection solution using **Received Signal Strength Indicator (RSSI)** data from **ESP32** applying descriptive statistical methods to analyse variations induced by human motion.

Lung Capacity Check – Spirometry for Pulmonary Function Test [Github][Link] **Oct 2021 - Apr 2022**

- Innovated a low-cost solution to calculate **Spirometry parameters** by leveraging **Bernoulli-Venturi Principle** as well as performs **Incentive Spirometry**. Utilised MongoDB and Matplotlib to analyse the patients' results.

Automation Society Security Task [Link] **Dec 2020 - Mar 2021**

- Extracted **Channel State Information (CSI)** from Intel IWL5300 NIC using **Linux CSI Tool** and **ESP32** for Human Activity Recognition (HAR).
- Applied **Hampel Identifier** and Moving Average on CSI data for preprocessing.

Crop Health Analysis using NDVI [Video] **Sep 2020 - Oct 2020**

- Calculated the health of the plant by using **Normalized Difference Vegetation Index (NDVI),** combining **RGB & NIR pixels** using PIL library in python. Developed a web-based system using **Flask**.

SKILLS

Programming Languages: Python, Java, JavaScript
Database Technologies: MySQL Server, PostgreSQL, Oracle DB,
Web Technologies: Django, Django Rest Framework, Node.js, Express.js
Python libraries: NumPy, Pandas, Matplotlib, Plotly, Flask
Dev-Ops: Docker, Apache, Jenkins

ACADEMIC HONORS/AWARDS

Best Project Award. Code for Life Hackathon, VIT Vellore **May 2023**
Awarded for the Best project award amongst more than 100 registered teams and 400+ students.

My Applied Science Contest, VIT Business Incubation Centre **Mar 2023**
Secured 3rd position amongst various students in the inter-department Innovation contest.

Team Leader, Project DeepBlue, Mastek **Oct 2021 - Mar 2022**
2nd Runner Up at Mastek's Deep Blue Season 7 among the 282 registered team.

Team Leader, Devsoc'21, CodeChefVIT, Vellore Institute of Technology **Apr 2021 - May 2021**
Won Devsoc'21 among 500 teams participated from all over India.

Team Leader, SIH Internal Hackathon 2022, KC College, Team Rand0m6 **Feb 2022 - Mar 2022**
Spearheaded the team to 2nd Position at SIH KC College Internal Hackathon.