

# Priyanka Rose Varghese

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## Education

### Columbia University

MS in Computer Science, Machine Learning Track (GPA: 4/4)

Aug 2024-Dec 2025

New York City, NY

### University of Visvesvaraya College of Engineering

BTech in Computer Science and Engineering (CGPA: 9.32/10)

June 2024

Bengaluru, IN

## Skills

**Languages and Databases:** Python, C++, C, SQL, HTML/CSS, PostgreSQL, SQLite, MySQL, DAX

**ML/AI Tools:** Tensorflow, Keras, Pytorch, OpenCV, YOLO-V2, Spacy, NLTK, Hugging Face

**Frameworks, Cloud & Other Tools:** Django, Flask, FastAPI, RASA, React, Git, AWS, GCP, Kubernetes, Docker

## Work/Research Experience

### Columbia Mailman School of Public Health

New York City, NY

Project Intern

Feb 2025

- Developing a **Protected Health Information(PHI)-aware information extraction pipeline** with research and data scientists at **NYC Department of Health and Mental Hygiene** for data processing and reporting.
- Fine-tuning a **Multimodal Transformer** to extract structured data from unstructured health records collected across NYC (e.g., vaccination forms, intake sheets).

### DELL Technologies

Bangalore, IN

Data Analyst Intern

Feb 2024-June 2024

- Built automated web crawlers using Selenium and Scrapy, **improving data collection accuracy by 20%** for real-time competitor tracking used by the **Dell Global Analytics team**.
- Automated data pipelines with Python (PyWin32, OpenPyXL), **reducing manual intervention by 40%** and accelerating weekly insights delivery within the team

### Bangalore University

Bangalore, IN

Research Assistant

May 2023-June 2024

- Led research on interpretable cervical cancer prediction using transfer learning and LIME, addressing the need for **transparent AI** in medical diagnostics.
- Achieved **99.8% accuracy** by optimizing **neural architectures (ResNet-50 V2, MobileNetV3, DenseNet-201, VGG-19)**, improving the reliability of cancer detection models.

### Dell Technologies

Bangalore, IN

Summer Intern

May 2023-June 2023

- Collaborated with stakeholders at DELL Global Analytics to gather and translate business requirements into a high-efficiency **AI chatbot** solution, **reducing data retrieval time by 30%**.
- Developed the chatbot using the **RASA framework and integrated DAX queries with DELL's Finance Data Mart**, enabling real-time data insights and improved decision-making speed.

## Projects

### Real Time Root Cause Analysis in GCP using AI Workflows | GCP, Kubernetes, Docker, BERT, BigQuery

- Built an automated, cloud-native RCA system using **GCP (Pub/Sub, Logging, BigQuery) and Kubernetes** to enable real-time error classification and remediation across six fault types
- Fine-tuned BERT classification model** and deployed Dockerized, **LLM-powered RCA services on Kubernetes** for log analysis, integrating with Cloud Functions for event-driven inference.

### Neuralyst- LLM-Powered Task Management System [github] | Python, Groq, Firebase, OpenAI- Whisper, LLAMA

- Implemented an **LLM-powered web app** using **OpenAI Whisper, LLaMA, and Firebase** featuring voice-to-text input, intelligent task parsing, and real-time data/task synchronization.
- Designed a **location and time-aware task prioritization** engine using LLMs that dynamically reorders tasks based on user context to **maximize user efficiency**.

### RoboJackson: Rhythm-Aware Robotic Motion Generation | SMPL, Mujoco, Motion Retargeting, TQC policy

- Built a pipeline to collect trending YouTube Shorts and extract **3D full-body motion** using the SMPL model, then **retargeted poses to a MuJoCo humanoid** by resolving joint and DoF mismatches.
- Developed a **custom Gym environment** with motion-based rewards and **fine-tuned a TQC-pretrained humanoid** to perform expressive, **stable dance movements via reinforcement learning**.