VISHWA GOPAL

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EDUCATION

New York University (NYU), Master of Science in Computer Engineering ***Expected Graduation* – May 2025**
Relavant Coursework: *Data Structures & Algorithms, Database, Machine Learning, Deep Learning, Data Analysis*

SKILLS

Programming: Python, R, C, C++, Java, JavaScript, TypeScript, Rust, Golang
Frameworks & Technologies: PyTorch, Tensorflow, SQL, Hadoop, Hive, MongoDB, DynamoDB, GraphQL
Web Development: Angular, React, Node.js, React.js, Flask, JQuery, HTML, CSS, Bootstrap, SQL, Springboot
Tools: Git, Docker, Kubernetes, AWS, GCP, GDB, Jenkins, JIRA, Confluence, Kibana, Grafana, Kafka, Kubernetes

EXPERIENCE

Software Engineer | Capgemini Technology Services **Dec 2020 – Jul 2023**

- Led the design and development of 3+ enterprise-level **microservice** applications on **AWS cloud**, improving real-time network testing and monitoring for Viavi Solutions, resulting in enhanced tool performance and scalability.
- Designed and implemented **scalable APIs** and background workers using **SpringBoot**, and leveraged **EC2** & **DynamoDB** to build web services for network quality assurance and performance monitoring, processing over **10 million** data points per day, reducing system latency by 25%, and optimizing resources.
- Developed **Angular** User Interfaces to support real-time data visualization and monitoring, improving user response time by 30% and streamlining user interactions with network monitoring tools.
- Led the testing and monitoring of APIs and background services, identifying and resolving **15+ critical bugs** in production environments, improving system reliability by 26% and enhancing the efficiency of network performance monitoring.
- Developed and integrated **CI/CD pipelines** using **Jenkins**, reducing deployment time by 40%, and designed a scalable infrastructure that supported **1000+ concurrent users**, enhancing scalability for high-demand environments.
- Mentored 4 new hires on computing principles and debugging techniques, improving team productivity and code reliability through knowledge sharing and a collaborative approach.

Software Development Intern | IBM **June 2020 – Oct 2020**

- Developed and optimized **CNN** models with **PyTorch** for classifying 10,000+ lung X-ray images, achieving a 20% improvement in COVID-19 detection accuracy and reducing processing time by 30% using **IBM PowerAI**.
- Engineered a CNN model using **TensorFlow** for audio file analysis, by converting files to spectrograms, optimizing the audio classification process and improving accuracy and processing speed.
- Demonstrated expertise in software development for **IBM AC922** servers and Red Hat Enterprise Linux, improving operational efficiencies in an enterprise environment.

PROJECTS

HealthSync: Personal Health & Wellness Assistant – AWS, Node.js, Flask, AWS Cloud **Jan 2024 - Ongoing**

- Developed a full-stack web app to help individuals track and analyze their health journey using React UI, AWS, Java-based Lambda backend, integrating OpenAI API to deliver personalized fitness and nutrition advice.
- Created statistical analysis models on **AWS SageMaker** for predictive analytics and deployed real-time health insights.

Text Skim – *Python, NLP, Deep Learning, Artificial Intelligence (AI)* **Oct 2023 – Dec 2023**

- Developed an NLP pipeline using **TensorFlow** with a custom **ML API** and **React** UI, reducing research paper reading time by 80% through automated topic prediction and summarization.
- Implemented distributed training in an HPC environment using PyTorch, optimizing model training speed and scalability across multiple GPUs and nodes.

Recyclocator – *Android, Java, Firebase, Google Maps API, IoT* **May 2023 – Aug 2023**

- Developed an **Android** waste classification app using CNNs, integrating **Google Maps API** for location-based services and **Firebase** for real-time data, simplifying waste management through **IoT** smart bins.
- Implemented **OpenCV** and **TensorFlow** for object detection, enabling real-time waste type classification and segregation, simplifying waste management with a smart bin integrated with a Raspberry Pi and a camera.

LEADERSHIP & INVOLVEMENT

- Awarded Best Outgoing Student for publishing 25+ patents in AI and cloud platforms, demonstrating advanced problem-solving and critical thinking skills.
- **National Winner** at the **IBM** Berkeley-Andhra Smart Village Open Innovation **Hackathon** by developing an AI cloud app that empowered uneducated villagers to expand their businesses globally.
- Participated in the International Summer School, Samara on Future Technologies, focusing on coding for nanosatellites.
- Awarded the **IEI Centenary Innovation Award** as part of the "Young Research Engineers' Team" in March 2020.