ABHEESHTA VEMURI

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EDUCATION

University of Florida   Gainesville, Florida
Master of Science, Computer Science   January 2024 - December 2025
- Coursework: Advanced Data Structures, Programming Language Principles, Natural Language Processing
- GPA : 3.7/4.0 (**Transferred from Bennett University on academic merit as an exchange scholar**)

Bennett University   Uttar Pradesh, India
Bachelor of Technology, Computer Science   August 2020 - May 2024
- Coursework:Design and Analysis of Algorithms, Operating Systems, Digital Design, Computer Networks
- GPA: 8.5/10

EXPERIENCE

University of Florida   Florida, United States
Graduate Research Assistant   December 2024 - Present
- **Fine-tuned** a custom AI model (**PubDetectNet**) using **PyTorch** to classify and extract metadata from publisher records, leveraging a curated dataset on **AWS S3**, improving extraction accuracy by **20%**.
- Built a **CI/CD pipeline** via **GitLab**, containerized the workflow with **Docker**, and deployed using **Kubernetes**, enabling seamless integration with publication data workflows and enhancing overall system reliability.
- Engineered an **auto scaling service** for UF's **HiperGator** supercomputing cluster to optimize compute usage for large-scale data analysis, boosting **MLOps efficiency** by **15%** with monitoring via **Prometheus** and **Grafana**.

Nasscom   New Delhi, India
Software Engineer Intern   August 2023 - December 2023
- Built a **Kafka-based API** in **Java** with **Spring Boot** for **real-time data streaming** on government skilling platforms, integrating **robust file handling mechanisms** and **automated database storage** for seamless and reliable data processing.
- Deployed **containerized microservices** on **Kubernetes** using **GCP** and **Docker**, integrated with **CI/CD pipelines**, and developed intelligent automation tools in **Flask**, resulting in a **40%** improvement in deployment speed and a **30%** boost in system scalability.

Cognizant Technology Solutions   Hyderabad, India
Software Engineer Intern   May 2023 - August 2023
- Engineered RESTful backend APIs using **Python**, **Django**, and **MySQL** to manage structured healthcare records, supporting real time data access and enabling real-time, secure access to healthcare modules
- Developed scalable Spark pipelines with **Jenkins** CI and managed secure deployments using **HashiCorp** Vault and **Consul**.

PROJECTS

AI-Guided Smart Pick System (Warehouse Automation) (Link)
Python, YOLOv8, OpenCV, Flask, Raspberry Pi, Docker, SQLite, Streamlit   May 2025
- Developed an AI-powered warehouse assistant using YOLOv8 and OpenCV to detect delivery boxes and activate LED indicators for real-time pick guidance, improving item retrieval efficiency by 40%.
- Deployed Flask-based web interface and camera system on Raspberry Pi, logging selection activity into SQLite and simulating Amazon style robotic workflows with modular microservices.

Sign Language Recognition (*Ranked 1st out of 50+ projects and awarded prize money at a campus AI showcase*) (Link)
Python, OpenCV, TensorFlow, Keras, Jupyter Notebook   April 2024
- Preprocessed sign language gesture videos using OpenCV and applied image augmentation to improve model robustness.
- Built a CNN-LSTM architecture using TensorFlow and Keras to extract spatial and temporal features from gesture sequences, achieving 93% test accuracy in real-time ASL alphabet recognition.

AI-Powered Patient Intake Triage System (Link)
GPT-4, BERT, Random Forest, Flask, Streamlit, SQLite   March 2024
- Built an AI-driven patient triage assistant integrating GPT-4 via OpenAI API with a trained classification model to predict triage urgency (Urgent/Moderate/Low) based on symptoms and history.

TECHNICAL SKILLS

- Languages/Databases: Python, C/C++, Java, JavaScript, Typescript, SQL, MongoDB, Firebase, PostgreSQL
- Web/App Development: ReactJS, Node.js, Express, Spring Boot, Django, Flask, HTML/CSS
- AI/Cloud Technologies: Computer Vision, IoT, AWS, GCP, Docker, Kafka, Terraform, Kubernetes
- Other: Linux, Agile, Jira, Git, VS Code, Android Studio