SATYA SAI SUJAN NADIMINTI

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EDUCATION

University of Florida Aug 2023 - May 2025
Master of Science - Computer and Information Science (CGPA: 3.66/4.0) *Gainesville, FL*

TECHNICAL SKILLS

Programming: Python, Java, C++, JavaScript, C#
Frameworks: React, Node.js, Express.js, Spring Boot, Flask, HTML, CSS
ML & Databases: PyTorch, TensorFlow, Scikit-learn, OpenCV, MySQL, MongoDB, Oracle SQL
Cloud & Others: AWS, Docker, Kubernetes, Git, Agile, Linux, Unix, SLURM, Eclipse, VS Code, Tableau

WORK EXPERIENCE

Graduate Research Assistant—*University of Florida, Gainesville, FL* Jan 2025 - May 2025

- Developed scalable **LSTM-based seq2seq models** for drone trajectory prediction **(2000+ timesteps),** optimizing **inference** using **CUDA (multi-GPU)** to train **70% faster.**
- Streamlined **large-scale simulation pipelines** with **PyTorch Lightning,** and optimized models using **Bayesian tuning** with **Optuna,** improving **model performance** by **60%.**
- Built a web interface using **React** and **Flask** to automate **data preprocessing,** and **containerized** the system with **Docker** to ensure consistent environments, reducing **manual effort** by **35%.**
- Configured **SLURM batch jobs** to automate training on **100K+** records daily, enabling **efficient resource utilization.**

Software Engineer Intern—*Vellore Institute of Technology, Vellore, India* Dec 2022 - Jun 2023

- Developed an open-source video conferencing platform for **real-time sign language translation** using an **LSTM model (TensorFlow, Keras)** trained on **25,000+ sequences,** achieving **98.81% accuracy.**
- Designed and implemented a gesture data pipeline using **OpenCV** and **MediaPipe Holistic** for **keypoint extraction** across **7 gesture classes** in a high-throughput environment.
- Implemented **rule-based NLP** to dynamically convert gesture sequences into correct sentences for natural interaction.
- Integrated the trained model into a **distributed WebRTC system** for **real-time gesture inference,** supporting **low-latency, multimodal communication** with **Speech-to-Text API** for live audio captioning.

Software Development Intern—*The Sparks Foundation, Remote, India* Jul 2022 - Oct 2022

- Developed a **React interface** with **Tableau** to visualize global terrorism data through dynamic filters and dashboards.
- **Automated** Python scripts for **data preprocessing** and streamlined the **SDLC** with **AWS Amplify,** reducing manual effort by 70% and ensuring **99.9% uptime** for scalable, reliable large-scale analysis.

Software Development Intern—*Abbeysoft Technologies, Bengaluru, India* Jan 2022 - Jul 2022

- Designed **RESTful APIs, microservices,** and **backend solutions** for key features of a **financial monitoring system** using **Spring Boot,** improving **system efficiency** by **40%.**
- Automated **backend workflows** to trigger **Spark ETL jobs** in **Databricks** for ingesting raw data from **AWS S3,** resulting in **30% faster report generation** and a **40% improvement** in **analytical accuracy.**
- Integrated **Kafka consumers** in the **backend** to fetch **real-time fraud alerts** from **Spark Streaming** and pushed them to the **frontend** via **WebSockets,** achieving **<2s latency.**
- Deployed **fault-tolerant** backend services on **AWS EC2** via **CI/CD pipelines,** reducing **deployment time** by **30%.**

ACADEMIC PROJECTS

Real Estate Trend Analyzer — *Oracle SQL, Node.js, Express.js, React*

- Developed a scalable **full-stack web app** using **React** and **Node.js (Express.js)** for **real estate trend analysis.**
- Built **RESTful APIs** for real-time data delivery from **Oracle SQL,** enabling trend insights on the frontend.
- Integrated **6 complex queries** to filter **900K+ records,** reducing **data retrieval time** by **40%** across dynamic filters.

Gator Library — *Python, Red-Black Trees, Binary Min-Heaps*

- Implemented **Red-Black Trees** for efficient book storage and retrieval, ensuring **O(log n)** operations and boosting **system responsiveness** by **40%.**
- Designed **Binary Min-Heaps** for waitlists, reducing reservation time by **30%** with priority-based handling.

Internet Chatting — *Java, Socket Programming, Multithreading*

- Built a **P2P chat app** using **Java** and **TCP/IP sockets,** enabling decentralized communication and secure file transfer.
- Designed a **multi-threaded system** enabling peers to act as both **client** and **server,** with **command-based sharing.**

ACHIEVEMENTS

- Published research on **Live Sign Language Interpretation** in **Integrated Technologies in Electrical, Electronics, and Biotechnology Engineering,** presented at **ICITEEB-2024 conference.**
- Published research on **COVID-19 Prediction based on Symptoms** in the **April 2022** edition of **International Journal of Scientific and Engineering Research (IJSER).**