SATYA SAI SUJAN NADIMINTI

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EDUCATION

University of Florida, MS - Computer Science *(CGPA: 3.66/4.0)* Aug 2023 - May 2025
Coursework- Analysis of Algorithms, Adv DSA, Adv Computer Networks, DBMS, SWE, Operating Systems, Data Science

TECHNICAL SKILLS

Programming: Java, Python, C++, JavaScript, HTML, CSS
Frameworks: Spring Boot, Flask, Node.js, Express.js, React, Redux, Angular, JUnit, Pytest, REST APIs
Systems & Data: Kafka, Spark, Oracle SQL, PostgreSQL, MongoDB, NoSQL, ETL, Data Modeling
Cloud & Others: AWS, Docker, CI/CD, Git, GitHub Actions, Linux, Maven, SDLC, Agile, System Design, OOD

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 **distributed data processing pipelines** and optimized execution flow using **multithreading** and **parallel computing,** improving real-time training throughput 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 over **25,000 sequences,** achieving **98.81% accuracy.**
- Engineered a **high-throughput keypoint pipeline** with **OpenCV** and **MediaPipe** for real-time gesture extraction.
- Designed rule-based **NLP modules** to dynamically convert gesture sequences into correct output for natural interaction.
- Integrated the trained model into a **low-latency distributed system** using **WebRTC** to enable dynamic inference.

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

- Designed a **React + Tableau** dashboard for data monitoring and deployed via **AWS Amplify** with Git-based **CI/CD.**
- Developed Python-based **ETL pipelines** and validation scripts to load and verify user data in **PostgreSQL,** boosting availability by **80%** and reducing errors by **60%.**

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

- Designed **RESTful APIs, distributed microservices,** and **backend** 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,** cutting **report latency** by **30%** and improving **analytics accuracy** by **40%.**
- Integrated **Kafka consumers** in the backend to stream **real-time fraud alerts** from **Spark Streaming,** and pushed updates to the frontend via **WebSockets,** maintaining **<2s latency.**
- Implemented a **MongoDB snapshot store** to persist **streaming metadata** and **event logs,** enabling **real-time dashboards** and improving **backend recovery speed** by **40%.**
- Automated builds with **Maven** and version control with **Git;** profiled backend with **JProfiler** to resolve bottlenecks.
- Deployed **fault-tolerant** backend services on **AWS EC2** via **CI/CD pipelines,** reducing **deployment time** by **30%.**

ACADEMIC PROJECTS

Internet Chatting — *Java, Socket Programming, Multithreading*

- Built a decentralized **P2P chat system** using **Java** and **TCP/IP sockets** with command-based secure file sharing.
- Optimized **performance** by profiling with **perf** and **flamegraphs,** and debugging **concurrency issues** using **gdb.**
- Prototyped **actor-based peer sessions** using **Akka principles,** enabling fault isolation and message-driven concurrency.

Severity Prediction App — *Scikit-learn, Flask, React, Docker, AWS, GitHub Actions*

- Built a **Covid Predictor** using **Flask** and **React,** achieving **100% model accuracy** via robust data preprocessing.
- **Dockerized** and deployed on **AWS (S3 + EC2)** with secure **RESTful APIs** and **CI/CD integration**.

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

- Developed a **library management system** using **Red-Black Trees** to ensure **O(log n)** operations for book retrieval, improving **responsiveness** by **40%.**
- Designed **Binary Min-Heaps** for waitlists, reducing **reservation time** by **30%** with **priority-based handling.**
- Incorporated **JUnit** and **input validation,** ensuring reliable performance across **10K+** simulated transactions.

PUBLICATIONS

- **Live Sign Language Interpretation** – Published at *ICITEEB-2024.*
- **COVID-19 Severity Prediction** – Published in *IJSER, April 2022.*