Amith Reddy Atla

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EXPERIENCE

- **Graduate Teaching Assistant** — Aug 2024 - May 2025
  Michigan State University — East Lansing, MI
  ◦ Facilitated in delivering course content on **Computer Systems** to **300+ students**, guiding through **C++, system architecture, memory management, and operating systems**, resulting in improved student performance and engagement

- **Research Assistant** — Oct 2023 - Feb 2024
  Michigan State University — East Lansing, MI
  ◦ Formulated a **comprehensive report** on **adversarial attack vectors** against **AV perception systems**, synthesizing methods and threat models from research papers
  ◦ Coordinated the **refinement of adversarial patch generation pipelines**, reducing the **average time to successful attack on object detectors by 10%** across diverse environmental testbeds

- **Software Developer - Intern** — Jan 2023 - May 2023
  Estate Dekho — Hyderabad, India
  ◦ Implemented real-time property listing updates using **Node.js (Express.js)** and **AngularJS**, enabling live data synchronization without page refreshes, enhancing user interaction and increased retention by **30%**
  ◦ Redesigned front-end interfaces with **AngularJS, React, and Redux**, dynamically displaying property updates, leading to a **25% improvement in user engagement and experience**
  ◦ Optimized backend API services using **Java (Spring Boot)** and **Hibernate**, improving database transaction efficiency and attaining a **40% reduction in data retrieval times**
  ◦ Configured Linux-based server infrastructure on **Google Cloud Platform (GCP)**, enabling scalable backend services and **reducing the time for server maintenance by 15%**

- **Software Development Engineer - Intern** — Jun 2022 - Aug 2022
  Gap Inc. — Hyderabad, India
  ◦ Engineered scalable, resilient **ETL pipelines** utilizing **Java-Spring Boot**, persisting to **Postgres**, integrating **Hadoop** for batch processing, achieving **99.9% data integrity** and strengthening operational insights
  ◦ Developed **custom dashboards and reporting interfaces** using **React** and **Node.js**, powered by **Apache Kafka**, reducing report generation time by **30%** and boosting user engagement by **40%**
  ◦ Collaborated as part of a **microservices team**, leveraging **Agile** and **Scrum** methodologies with **JIRA** and **Confluence** to drive **100% on-time delivery** of sprint goals

EDUCATION

- **Michigan State University** — Aug 2023 - May 2025
  Masters - Computer Science — CGPA: 3.8/4.0
  ◦ Relevant Coursework: AI, AIoT, Operating Systems, Cloud Computing

PROJECTS

- **Graph Neural Network Ensemble for Node Classification**
  Technologies: Python, PyTorch Geometric, Graph Neural Networks, Ensemble Learning
  ◦ Developed an ensemble of **Graph Neural Networks (GNN)** models to classify nodes in **large-scale graphs with millions of nodes and edges**, achieving high accuracy and robustness in real-world datasets
  ◦ Improved model performance through **advanced data preprocessing, feature engineering, statistical analysis, and majority voting ensemble techniques**, increasing validation accuracy to **over 90%** and enhancing prediction stability by **30%** on imbalanced datasets

- **Neural-Enhanced LoRa Signal Decoding (NELoRa) for Low SNR Environments**
  Technologies: MATLAB, PyTorch, Neural Networks, Signal Processing
  ◦ Implemented and fine-tuned a model for **LoRa signals**, achieving a **50% reduction in Signal Error Rate (SER)** under low SNR conditions, with an **SER under 10% at -17dB**
  ◦ Enhanced signal decoding accuracy through **targeted fine-tuning**, surpassing baseline models by **25%** and achieving reliable demodulation critical for **IoT and low-power communication networks**

SKILLS

- **Technical Expertise:** Data Structures, Algorithms, Machine Learning, Object-Oriented Design, Optimization Techniques, Unix, Linux, Shell scripting, GPU Management, High Performance Computing(HPC)
- **Languages & Frameworks:** Python, Java, C++, TensorFlow, Keras, PyTorch, C, JavaScript, SQL, HTML/CSS
- **Web technologies:** AngularJS, ReactJS, NodeJS, REST APIs, JSON, XML
- **Database Systems:** MySQL, MongoDB, SQLite
- **Cloud Services:** Google Cloud Platform(GCP), Azure Kubernetes Service
- **DevOps & Version Control:** Git, Github, Jenkins, Jira