Vignesh Gunda

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EXPERIENCE

Graduate Student Assistant   August 2024 – Present
University at Albany (SUNY)   *Albany, NY*
- Evaluated student progress in a design analysis algorithms course, providing critical feedback for over 100 student assignments, utilizing expertise in data structures and algorithms.
- Guided students during office hours and graded assessments for **ICSI 403 Design Analysis of Algorithms,** and **ICSI 311 Principles of Programming Languages**, improving students' performance through feedback and support.

Data Scientist   October 2022 - May 2023
Zigram   *Gurugram, India*
- Took ownership and independently prepared data for the Profile Builder module using **Python**, **DBeaver**, **NLP**, **ML**, and advanced automation techniques, increasing data preparation efficiency across a database of 150+ tables.
- Developed predictive models that retrieved the personal details of PEPs (Publicly Exposed Politicians) using NLP and ML (Name Entity Recognition), achieving **90% accuracy** in text matching, which **reduced manual validation efforts by 40%**.
- Optimized classification models by **cross-validation**, **hyperparameter tuning**, and **feature selection**, improving entity recognition performance by **15%**.
- Designed and deployed **deep learning-based AI models** with **TensorFlow** and **PyTorch**, integrating them into **AWS Lambda-based microservices** with **CI/CD automation**, reducing deployment time by **40%** and enhancing **real-time risk analysis**.

Software Development Intern   June 2022 - September 2022
Hexagon   *Hyderabad, India*
- Adapted to the evolving testing frameworks by leveraging Playwright for automated testing, **boosting test coverage by 35%**.
- Developed and executed automation scripts using TypeScript and Playwright, which enhanced test execution efficiency and **reduced manual testing efforts by 10 hours per week**, ensuring faster delivery of the Dispatch product.

SKILLS

Programming: Python, R, SQL, JavaScript/TypeScript, C, C++, Java, Go, Kotlin
Technical Skills: Machine Learning (TensorFlow, PyTorch, Sklearn), NLP and LLM, Databases, Data Processing (Excel, Pandas), Visualization (PowerBI), LLM(LangChain), Statistical Analysis, React.js, Next.js, Node.js, AngularJS, MERN Stack, Automation (Jenkins, Playwright).
Systems & Tools: Docker, Kubernetes, Cloud Services (AWS, Azure), Version Control (Git, GitHub), Operating Systems(Windows, Linux, MacOS).

PROJECTS

Blossom   February 2024 - May 2024
- Led the development of a full-stack flower order management system, streamlining the purchasing and selling process for customers and vendors using frontend and backend tools, **ReactJS**, **Node.js**, **TypeScript**, **MongoDB**, and **Express.js**, reducing processing time by **40%**.
- Enhanced user engagement by developing an **AI-powered recommendation engine** that dynamically visualized personalized product images based on user preferences, improving customer satisfaction and engagement by **25%** through user feedback.
- Ensured the accuracy and reliability of the AI feature by implementing robust error handling and validation mechanisms.

Stock Market Price Prediction   September 2022 - June 2023
- Advanced a predictive stock market model using **Hidden Markov Models** (HMM) with a 4-state model, accurately forecasting stock price trends (Open, High, Low, Close), achieving a **93% prediction accuracy**.
- Expanded the research by implementing **LSTM** and **ARIMA** models for stock market prediction by conducting a comprehensive comparative analysis of all models to find the effective approach by achieving an efficiency boost of 20% over the other models.

Ad-Maker   March 2022 - June 2022
- Created an **AI-powered tool** utilizing **NLP** and **word2vec embeddings** to generate emotionally resonant and humorous product promotion ideas tailored to specific product features, increasing marketing efficiency by **30%**.
- The platform empowered marketers by allowing them to input product features and receive creative campaign concepts instantly, leading to a **20% increase** in campaign success rates.

One-Stop   April 2022 - May 2022
- Created a comprehensive online platform utilizing **HTML**, **CSS**, **Flask**, and **MySQL** to facilitate internship and job searches. The platform empowers registered users to post available job openings, fostering a vibrant community where individuals can connect, share experiences, and discover new opportunities. Additionally, users can contribute valuable insights by sharing their interview experiences and aiding others in their career journeys.

EDUCATION

Master of Science, Computer Science; CGPA 3.7/4.0   July 2023 - May 2025
University at Albany – SUNY   *Albany, NY, USA*
Courses: *Algorithms and Data Structures, Software Engineering, Artificial Intelligence, Machine Learning, Advanced Programming Concepts, Computer-Organization Architecture.*

Bachelor of Technology, Computer Science Engineering; CGPA: 3.4/4.0   July 2019 - June 2023
Mahindra University   *Hyderabad, India*
Courses: *Operating Systems, Data Structures, Analysis of Algorithms, Artificial Intelligence, Machine Learning, Networking, Cryptography, Relational Database Management Systems, Time Series Analysis & Forecasting, Distributed Systems, MPI.*