Sashank Boppana

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EDUCATION

Master of Science, Computer Science 01/2024 – 12/2025
University of Florida, Gainesville, FL GPA: 3.89/4.00

- Relevant coursework: Advanced Data Structures, Data Engineering, Intro to Data Science, Computer Networks, Operated Systems, UXD, Introduction to Data Science, Programming Language Principles, and Natural Language Processing.

PROFESSIONAL EXPERIENCE

Research Assistant, Xiao Fan Lab 03/2025 – Present
University of Florida | Gainesville, Florida

- Developed an RNA-protein binding site extraction pipeline for 550000+ sequences from UniProt reducing time by 40%.
- Trained machine learning models on synthesized protein-binding data of size 1600+ to enhance prediction accuracy.
- Implemented GLP techniques using TensorFlow, and BioPython to uncover meaningful genomic interaction patterns.

Student Software Developer 11/2024 – 01/2025
Twilight, University Startup | Gainesville, Florida

- Built a platform connecting 100-120 startups, talent, and investors, promoting collaboration in the startup ecosystem.
- Designed & developed a responsive, scalable UI using HTML, CSS, Angular, and TypeScript to enhance user experience.

AIML Engineer, Intern 06/2023 – 12/2023
Evalueserve | Gurgaon, India

- Led the fine-tuning of LLMs in Python, achieving 40% efficiency in patent data classification workflows.
- Developed a Python-based analysis tool using Auto GPT, enabling automated data insights and reducing manual errors.
- Automated SQL query generation in Python, saving engineering effort, time and boosting reliability.

Student Teaching Assistant 01/2023 – 04/2023
Bennett University | Greater Noida, India

- Tutored 100+ students in Java and led grading efforts, contributing to a 20% improvement in average scores.
- Adapted instructional material to align with individual learning preferences, improving personalized conceptual clarity.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, HTML/CSS, Java, C++, SQL, Dart, Pony (Actor Model), R, GoLang.
Web Frameworks: Angular.js, Node.js, Flask, Django, Google Firebase Integration, MySQL Workbench, PostgreSQL.
AI/ML: Predictive Modeling, Large Language Models (LLMs), NLP, Deep Learning, Data Preprocessing, Model Optimization, Feature Engineering, Reinforcement Learning, Time Series Analysis, Transfer Learning, and Ensemble Methods.
Data & Systems Engineering: Data Pipeline Development, Data Processing & Transformation, Scalable Data Architectures, Database Design & Optimization, Kafka, API Development, Real-Time & Batch Processing, Big Data Technologies.
Software Tools & Platforms: VSCode, Git, AWS, GCP, Azure ML, Docker, Unit Testing, Automation Tools using Generative AI.

PROJECTS

SoilEye | *Python, Flask, HTML, CSS, Google Firebase, Scikit-learn, Keras, TensorFlow, Figma* 07/2023 – 05/2024

- Developed a website that provides insights using soil parameters. Generated health card PDFs for detailed analysis.
- Integrated multiple datasets and applied machine learning to predict suitable crops and fertilizers for specific soil types. Utilized convolutional neural networks (CNN) for image recognition to classify soil types based on uploaded images.

C-Secure | *Python, Flask, HTML, CSS, TypeScript, Google Firebase, NLTK, Scikit-learn, Pandas, Figma* 11/2022

- Utilized NLP techniques, including TF-IDF, polarity scoring, and Doc2Vec, to classify YouTube comments as hate speech, abusive, or neutral. Enhanced text classification accuracy through efficient text processing and embedding models.

RESEARCH WORK

Emotion Detection from Text by Contextual Analysis Using BiLSTM 09/2023 – 12/2024

- Published a research paper on sentiment analysis and text classification at ICIIP 2023, achieving state-of-the-art accuracy in classifying the "surprise" emotion using Recurrent Neural Networks (RNN).
- Analyzed 6 emotions using Bi-LSTM, achieving benchmark-level performance with robust evaluation metrics.

Hate Speech Detection on Online Texts: Explainability and Generalizability 01/2025 – Present

- Evaluated transferability of models trained on benchmark data to YouTube comments data for hate speech detection.
- Demonstrated that simpler models (Logistic Regression, SVM) with selective feature engineering and dimensionality reduction can rival deep learning approaches in performance, efficiency and interpretability.

ACHIEVEMENTS

- Awarded a $20,000 full scholarship among the top 3 out of 3,000 students for a bachelor's degree based on academics.
- Secured a $4,500 merit-based scholarship for the master’s course for academic excellence and outstanding portfolio.
- Featured in the Dean’s List as one in top 1% students throughout undergraduate studies.