Sandeep Poloju

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TECHNICAL SKILLS

- **Languages**: Python, Java, JavaScript, TypeScript, C, SQL, ShellScript, Cypher, GraphQL
- **Frontend**: Angular, Flutter, HTML, CSS
- **Cloud & DevOps**: AWS, Docker, Kubernetes(K8s), Github Actions
- **Backend & Frameworks**: Flask, FastAPI, Spring boot, GraphQL
- **Databases**: PostgreSQL, Firebase, SQLite
- **Machine Learning & Data Science**: PyTorch, TensorFlow, Numpy, Pandas, Matplotlib

WORK EXPERIENCE

University of Maryland (Shahoveisi Lab – Graduate Research Assistant) April 2024 – Jan 2025

Brown Patch Disease Prediction Web Application | *Python, Flask, AWS (EC2, Lambda, SageMaker, Redshift), BeautifulSoup, Machine Learning*

- Developed and deployed a machine learning web application on **AWS**, utilizing EC2, Lambda, SageMaker, and Redshift, achieving 85%+ accuracy in predicting Brown Patch disease severity using **Random Forest and Neural Networks**
- Automated data scraping and preprocessing of 10+ GB of weather and fungicide treatment data using BeautifulSoup, reducing data processing time by 30% and ensuring high-quality inputs for model training.
- Enhanced model accuracy by integrating weather-derived features like humidity and leaf wetness averages, enhancing prediction reliability
- Optimized the model by implementing climate-based data segmentation, reducing inconsistencies and improving overall prediction accuracy by 15%, leading to more precise disease severity assessments

Infosys - Specialist Programmer August 2021 – December 2023

- Developed a data visualization tool for a Fortune 500 client, using **Angular, Flask, Springboot, GraphQL, and Cypher Query Language**, improving data insights and analysis speed
- Elevated UI/UX with advanced components, fixed over 100 bugs, boosted performance, cutting page load time by 40% and increasing user engagement by 25%
- Optimized API call using performance tuning that improved its application response time by 50%
- **Enhanced NLU search performance** by integrating state-of-the-art transformer models like **SBERT**, elevating accuracy from **85% to 92%**
- Deployed microservices on Rancher, utilizing Docker and Kubernetes for scalability

SMART INTERVIEWS - Software Developer and Instructor February 2021 – May 2021

- Developed and optimized interactive features for the React-based SmartInterviews platform, improving UI responsiveness and reducing load times.
- Mentored 160 students as a teaching assistant in the fields of data structures, algorithms, and problem-solving
- Managed the lab sessions by giving lectures and providing feedback by conducting assignments

PROJECT EXPERIENCE

GREBoost | *Angular, Flask, AWS, Microservices* September 2024 – December 2024

- Developed GREBoost, a microservices-based e-learning platform, implementing RESTful APIs (Flask & FastAPI) and an Angular frontend, deployed on AWS with automated CI/CD using GitHub Actions

Twitter Sentiment and Integrity analysis | *Flask, tweepy, Heroku, NLTK* January 2021 - July 2021

- Led the development of an NLP-based web app that incorporates event date analysis to assess tweet integrity
- Designed and trained a data model with 78% accuracy to gauge the hype surrounding various Twitter events, including movies, politics, business product launches, and more

Online crime reporting system | *Flutter, Flask, Firebase, SQLite* January 2020- April 2020

- Designed and developed Android/IOS app for crime reporting and a web app for police officers to register FIRs
- Implemented advanced features to ensure a user-friendly experience using Flutter and Flask

Online Pharmacy App with ID Check | *Flutter, Flask, OpenCV* August 2020

- Participated in Hackathon as a team member to develop an application where customers can easily refill prescriptions uploaded to the platform
- Implemented a facial capture feature to verify the purchase of medicines as per prescription requirements

RESEARCH PUBLICATIONS

- Published research on Analyzing Twitter event hype vs. reality, leveraging NLP techniques to assess sentiment trends (IJRAR) [Paper-Link] [Publication Link]

EDUCATION

University of Maryland, A. James Clark School of Engineering — **College Park, MD, USA**
Master of Engineering, Software Engineering **(GPA - 4.0/4.0)** — **Expected – Dec 2025**

CVR College of Engineering — **Hyderabad, Telangana, India**
Bachelor of Technology in Computer Science, (**GPA – 3.8/4.0)**

CERTIFICATIONS

- Neural Networks and Deep Learning by Andrew Ng | Problem Solving (Advanced) in Hackerrank

AWARDS AND ACCOMPLISHMENTS

- **Top 100 rank** in **HackwithInfy** among **167,000+ coders**.
- Runner-up among 25 teams in the **WatsonX chatbot challenge**