SATHVIKA BALABHADRA

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EDUCATION

Arizona State University, Tempe **August 2023 - May 2025**
Master of Science in Information Technology GPA - 4.0 / 4.0
Coursework: Data Visualization, Advanced Big Data Analytics, Advanced Database Management Systems, NLP, AI in Cybersecurity, Information Systems Development, Cloud Architecture.

Chaitanya Bharathi Institute of Technology, Hyderabad, India **August 2018 - June 2022**
Bachelor of Engineering in Computer Science & Engineering GPA - 7.69 / 10
Coursework: Data Structures and Algorithms, Machine Learning, Artificial Intelligence, Operating System, DevOps, Software Engineering, Object Oriented Programming(OOP).

SKILLS

Programming Languages: Python, C, SQL, C#, HTML, CSS, JavaScript, Bash.
Tools & Softwares: MySQL, PostgreSQL, Tableau, AWS (AWS S3), Azure, Docker, Kubernetes, Jira, Databricks, Packet Tracer, Microsoft SQL Server, Git, IBM DOORS, Linux, Heroku, CI/CD.
Libraries & Frameworks: Pandas, NumPy, Django, Angular, Scikit-learn, Spring boot, Flask, ReactJS.
Software Development Life Cycle (SDLC) with experience in Agile methodologies.

WORK EXPERIENCE

Software Engineer **September 2023 - Present**
ASU Decision Theater Network *Tempe, USA*
- Develop a machine learning application to predict paper plane performance with 10% higher accuracy, integrating Python-based data pipelines for scalable computation and seamless real-time analytics integration.
- Upgrade software architecture and automate CI/CD workflows to augment model efficiency, streamline deployment processes, and improve code structure, decreasing project completion time by 30% applying Agile methodologies.
- Decrease model performance by refining feature engineering and hyperparameters, aiming to improve accuracy by 15% through an Agile, iterative approach.

Junior Software Developer **April 2022 - June 2023**
Rockwell Collins *Hyderabad, India*
- Executed Python-based software verification for Boeing's flight control systems, refining performance, and reaching a 95% client satisfaction rate. Developed and maintained over 50 Python scripts for automated testing processes.
- Leveraged advanced project management techniques to estimate, track, and report performance, converting customer needs into over 200 testable system requirements in DOORS.
- Reduced manual testing time by 40% and enhanced code quality by 30%, ensuring full safety compliance.
- Conducted peer reviews for requirements, test cases, Python scripts, and test procedures, upgrading code quality by 30%.
- Performed Safety-Of-Flight tests and regression tests between software deliveries to ensure quality of work.
- Elevated requirement traceability by 20% and ensured actionable specifications through efficient system management.

PROJECTS

Movie Recommender | *Django, Python, Pandas, AWS S3, Heroku, HTML, CSS, JavaScript*
- Built a full-stack movie recommendation system employing Collaborative Filtering, improving recommendation accuracy by 40%. Structured user authentication, movie search, and watchlist features, enhancing platform usability by 30%.
- Optimized SQLite database queries, minimizing response time by 25% for seamless performance. Launched application on Heroku, achieving 99.9% uptime and ensuring smooth accessibility.
- Combined AWS S3 for static file storage, cutting load times by 20% and boosting user experience.

Two Factor Authentication | *Python, MySQL, Flask, PyOTP, JWT, SQLAlchemy*
- Designed and implemented a robust 2FA system using Flask and PyOTP to mitigate security vulnerabilities. Seamlessly embedded JWT for secure session management and SQLAlchemy for efficient database interactions and data integrity.
- Boosted security by 35%, lowering unauthorized access by 28%. Amplified user trust, system integrity, scalability, and optimized the security-UX balance, elevating overall application performance.

Crop Disease Detection | *Python, HTML, Pandas, Scikit-learn, OpenCV*
- Redesigned a crop disease detection website using NLP-based text classification, upgrading diagnostic accuracy by 80%.
- Refined platform's usability, increasing farmer engagement by 50% through a streamlined and accessible web interface.
- Implemented an image captioning system with OpenCV, Strengthening user interaction and shrinking manual disease identification efforts by 30%.