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

SKILLS

Programming Languages: Python, C, SQL, C#, HTML5/CSS3, JavaScript, Bash.
Web & Frameworks: React, Angular, Flask, Django, Scikit-learn, Pandas, NumPy.
Cloud & DevOps: AWS (EC2, S3, Lambda, API Gateway, IAM, DynamoDB), Azure, Docker, Kubernetes, Linux.
Tools & Databases: MySQL, PostgreSQL, Microsoft SQL Server, Git, Jira, Databricks, Tableau, IBM DOORS.
Software Development Life Cycle (SDLC) with experience in Agile methodologies.

CERTIFICATIONS

AWS (Amazon Web Services) - Certified Solutions Architect – Associate   **April 2025 - April 2028**

WORK EXPERIENCE

Software Engineer   **December 2023 - Present**
Arizona State University   Tempe, USA

- Engineer a scalable Inventory Tracking System using Python, Django, and React, enabling real-time stock monitoring across multiple locations and reducing inventory discrepancies by 35%.
- Build and fine-tune predictive inventory forecasting models using Pandas and Scikit-learn, boosting stock replenishment accuracy and reducing overstock issues by 25% across multiple warehouse locations.
- Integrate cloud databases and REST APIs to ensure seamless data flow and enhance system scalability and reliability.
- Collaborate in Agile development cycles by leading daily stand-ups, participating in sprint planning, submitting Jira-based reports, and improving project delivery efficiency by 20%.

Junior Software Developer   **October 2021 - July 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%.