

SWANITH AMBADAS

716-228-1909 | Buffalo, New York | ambadasswanith@gmail.com | GitHub |
LinkedIn | LeetCode | Portfolio

EDUCATION

University at Buffalo, SUNY – Master of Science in Computer Science Jun 2025
Vellore Institute of Technology – Bachelor of Technology in Electronics & Communication Aug 2021

SKILLS & TOOLS

- **Languages:** Java, Python, C, C++, SQL, JavaScript, HTML, CSS, JSON
- **Databases:** MySQL, PostgreSQL, MongoDB, Redis
- **Frameworks & Tools:** Spring Boot, React, Docker, Kubernetes, RESTTemplate, Agile, AWS, Tableau, Maven, Node.js, React, Git, CLI, Spring MVC, Hibernate, Confluence Tools
- **Certifications:** Docker, Java, Hackathons, Kubernetes (CKA)

WORK EXPERIENCE

Cognizant India Pvt. Ltd., India

Software Development Engineer

Jul 2021 – Dec 2023

- **Spring Boot Modular Architecture:** Reduced manual efforts by 100 hours per market by analysing requirements and building reusable base code using @ConfigurationProperties.
- **Service Integration & Validation:** Drove down processing time by 75% and error rates by 90% by integrating NSDL KYC and PAN validation into the credit-card workflow using RESTTemplate.
- **Fraud Risk Automation:** Streamlined application processing by eliminating 3,000 ineligible cases in 2 months via automated API-based fraud checks – like low-income declines and fraudulent applications.
- **Leadership & Mentoring:** Led a team of 4 engineers to deliver features on schedule, cutting post-release defects by 20%, while mentoring juniors, aligning client expectations and incorporating Agile practices for effective stakeholder management.
- **Test Automation & Collaboration:** Modernized the test suite with JUnit 5 and Confluence-driven specs, amplifying test efficiency by 30% by clearing the backlog of automated test cases.
- **Cross-Functional Requirement Refinement:** Fostered collaboration with business analysts to refine requirements, cutting client review cycles by 15%

COMPUTER SCIENCE PROJECTS

Chest X-ray Image Analysis using Deep Learning: *Python, PyTorch, Jupyter*

- Accelerated CNN model training by 300x through custom built Autoencoder-based image compression utilizing the PyTorch library.
- Augmented model robustness by training with 2500 synthetic X-ray images generated via GANs to address data imbalance.

Multimodal Emotion Detection using Computer Vision: *OpenCV, Transformers, PyTorch*

- Streamlined facial feature extraction by detecting faces with OpenCV Haar Cascades and generating 512-D embeddings via OpenAI's CLIP Vision Transformer.
- Captured posture features by estimating 17-point body poses with Key point R-CNN (ResNet-50).
- Achieved a 15% uplift in emotion classification accuracy by fusing facial and pose embeddings within a chunked and cross-attention based custom Vision Transformer.
- Boosted cross-demographic generalization by 25% and reduced overfitting with real-time augmentations and GAN-synthesized samples.

Book Recommendation System: *Python, Flask, HTML, CSS, SVD, Collaborative Filtering*

- Aggregated and analysed 200K+ rows and benchmarked Random Forest, KNN, neural nets, and collaborative filtering; achieved best results (RMSE 0.82, MAE 0.65) with user-based SVD.
- Launched a Flask web app delivering top 10 personalized recommendations and visualization dashboards, that boosted click-through on recommended titles by 18%.

Ride-sharing Microservice Architecture: *Docker, Kubernetes, AWS (ECS, RDS, S3), React, JavaScript*

- Orchestrated a microservices framework handling 20K+ requests/min across three AWS Availability Zones with auto-scaling and load balancing.
- Mitigated downtime by 90% and securely managed 500+ GB of data across deployments and GitHub-based version control.

AWARDS & INVOLVEMENT

Speaker, CSE Workshop Seminar on Cloud Computing (Docker), University at Buffalo Apr 2025
Speaker, CSE Workshop Seminar on Data Structures and Algorithms, University at Buffalo Mar 2025
Membership Lead, IEEE Student Chapter, Vellore Institute of Technology Aug 2019 – Jun 2020
Organizer, Riviera Cultural Fest, Vellore Institute of Technology Sep 2018 – Feb 2019