Anshul Patel

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EDUCATION

North Carolina State University, Raleigh, NC || *Master of Computer Science* Aug 2021 – Dec 2022
Courses: Software Engineering, Database Management System, Design and Analysis of Algorithms CGPA: 4.0

Nirma University, Gujarat, India || *Bachelor of Technology in Information Technology* Aug 2016 – May 2020
Courses: Machine Learning, Deep Learning, Probability Statistics and Numerical Analysis GPA: 8.57

SKILLS

Languages: TypeScript, JavaScript, Python, Java, SQL, C++
Cloud & Infrastructure: AWS CDK, Lambda, DynamoDB, S3, SQS, SNS, CloudFormation, KMS, CloudWatch, Docker, CI/CD Pipelines
Framework & Tools: Node.js, Express.js, Flask, Jest, Git, Pandas, NumPy, TensorFlow, Keras, REST APIs, GraphQL

WORK EXPERIENCE

Software Development Engineer II, *Amazon Web Services, New York* Oct 2024 – Present
- Led core product infrastructure for the Kiro Autonomous Agent (AWS's autonomous AI development agent), owning metering and billing platforms, onboarding flows, and third-party integrations, and scaling production to support 20,000 users at launch for re:Invent 2025.

Software Development Engineer I, *Amazon Web Services, Seattle* Feb 2023 – Sept 2024
- Architected materialized view processing enhancements including reverse relationships, one-to-many views, and V2 rearchitecture with resource association integration, enabling complex document aggregation and resource link traversal for AWS CodeCatalyst teams while improving performance by 40%.
- Established full ownership of business metrics infrastructure by implementing cross-account S3 replication, operational tooling, monitoring, and event processing integration, ensuring reliable data pipeline operations for CodeCatalyst's business intelligence capabilities.
- Led operational excellence and mentorship initiatives through weekly 1:1s with new engineers, ORR/COE documentation, and intern project support including end-to-end tracing dashboard development, achieving 62% operational backlog reduction.

Software Development Engineer Intern, *Amazon Web Services, Seattle* May 2022 – Aug 2022
- Utilized Typescript to develop a JSON Schema Linter CLI, which provided authors with guidance on best practices and resulted in a 70% reduction in review labor hours.
- Developed a Java SDK and integration tests for the AWS CodeCatalyst Eventing System.

Associate Engineer, *Cloudoffis, Gujarat, India* May 2020 – May 2021
- Transformed the classification model applying Active Learning techniques to detect and sustain both concept and data drift. Saved time by eliminating the need to retrain the model from scratch.
- Implemented dynamic multiprocessing in the pipeline, achieving a reduction in process time by 30%.
- Evaluated different Object Detection architectures namely YOLOv3, YOLOv4, RetinaNet, CascadeNet, and Detectron 2 to identify borderless tables and cells on a custom dataset.

Machine Learning Intern, *Knowarth Technologies, Gujarat, India* Jan 2020 – May 2020
- Developed a multi-class classification model applying Ensemble techniques for over 1000 unstructured Self Managed Super Funds(SMSF) documents distributed over 30 classes, attaining over 95% accuracy.
- Automated the process of extracting relevant data from SMSF documents, yielding up to 80% reduction of work time per document.

Project Intern, *Knowarth Technologies, Gujarat, India* May 2019 – Jun 2019

PROJECTS

(*Audio Analysis*) Playback Attack Detection for Speaker Verification Systems
- Analyzed the importance of acoustic speech features namely MFCC, IMFCC, RFCC, and LFCC extracted from ASVSpoof 2017 dataset in classifying genuine and spoof audio signals to avoid Playback Attacks on Speaker Verification Systems.
- Developed a custom Artificial Neural Network with help of Keras to classify genuine and spoof audio over multiple scenarios, demonstrating the dominance of IMFCC features over other features.

(*Natural Language Processing*) Named Entity Recognizer Guide
- Implemented a Named Entity Recognition model to identify name, location, date, time, and organization from a paragraph using state-of-art BERT and Bidirectional LSTM models.
- Built a graphical interface utilizing Streamlit library to showcase the models and contrast the outcomes.