

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: Python, TypeScript, JavaScript, Java, C, C++, Android, SQL

Database: MySQL, SQLite, MongoDB, Firebase, AWS SQS and S3 Buckets

Software & Tools: Android Studio, Tableau, Google Colabatory, Git, WordPress, Google Dialogflow, Heroku, Postman

Framework & Libraries: Pandas, Numpy, Keras, Tensorflow, Rasa, Flask, OpenCV, NLTK, NodeJS

WORK EXPERIENCE

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 Code.AWS Rococo 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.
- Orchestrated the migration of the REST-based APIs to a cloud-based distributed system employing AWS SQS and S3 Buckets.
- 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

- Spearheaded a proof of concept model for extracting page location of keywords from Australian SMSF documents.
- Implemented a Flask Restplus API with Swagger UI connected to MySQL Database to track down details of the uploaded file along with its status and results.

PROJECTS

(Resume Chatbot) [BOTAnshul](#)

- Designed and developed a chatbot resume using python's open-source library Rasa, reimagining employer-employee communication.
- Deployed a mini version of myself on a personal website using Heroku docker services, enabling 24/7 availability and global access to conversations.

(Audio Analysis) [Playback Attack Detection for Speaker Verification Systems](#)

- Analyzed the importance of acoustic speech features namely MFCC, IMFCC, RFCC, and LFCC extracted from ASVSpooof 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.

(Machine Learning) [Slytherin Game using Genetic Algorithm](#)

- Developed a Genetic Algorithm for the old Snake Game using pygame library, resulting in a better score for computers than humans after mutating through a series of generations.