

# Nihar Jayeshbhai Thakkar

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## EDUCATION

- **Arizona State University:- Master's (MS) in Computer Science** (Cum. GPA: 4.0/4.0) (Aug 2022 - Dec 2023)  
( Courses:- Natural Language Processing, Data Mining, Cloud Computing, Data Visualisation, Foundation of Algorithms)
- **Nirma University:- B. Tech in Computer Science Engineering** (Cum. GPA: 3.5/4.0) (Jul 2018 - Jul 2022)  
( Courses:- Data Structures & Algorithms, Object Oriented Programming, Database Management Systems, Web Development, Software Engineering, Machine Learning, Operating systems, Deep Learning, Microservice architecture and programming )

## WORK EXPERIENCE

### Graduate Research Associate, Under Prof. Anamitra Pal at Arizona State University - Tempe, AZ, USA Dec 2022 - Present

- Created a Windows app showing optimal PMU placement in a grid for high school students and presented it to **300+ attendees**.
- Built the app using both frontend and backend development skills, utilizing **PyQt** and **Python**.
- Constructed machine learning models for Net Load Forecasting using a variety of models such as **GRU & Bi-GRU, SARIMA, Gradient Boosting Regressor, Elastic Net, and BlockRNN**.
- Employed tools such as **Darts** library, **Pytorch**, and **Pandas** to create accurate and reliable models, achieving an average **RMSE of 0.023 MW** with the best performing models being Gradient Boosting Regressor and BlockRNN.

### Software Development Intern, Incubyte Consulting - Ahmedabad, India Jan 2022 - Aug 2022

- Designed and developed a digital expense-tracking mobile application using **Java, Flutter**, and **PostgreSQL**.
- The app streamlines the process by fetching expenditure emails from the bank, processing them, and adding expenses to the user's account, resulting in an improved user experience.
- Implemented a streamlined **CI/CD deployment pipeline** for the application's backend using GitHub Actions and GCP, reducing the app deployment time by **60%**. This increased efficiency and allowed for faster updates to the application.
- Achieved over **90% code coverage** and utilized **Test Driven Development (TDD)** methodology in projects. Created integration and unit **test cases** using JUnit and Mockito to ensure code reliability and functionality.

### AI/ML Intern, Upeya Electronics - Ahmedabad, India Mar 2021 - Dec 2021

- Constructed a custom **Mask-RCNN model** using **Tensorflow** to accurately detect various parts of chairs and couches, including upholstery and hand rests. The model achieved an **88% accuracy** rate and was educated on a large dataset of imagery.
- Implemented a research paper on material recognition and fine-tuned a **Deepten ResNet50** model using **PyTorch** and **Caffe** to detect over 22 different materials.
- Devised and deployed an automated bot for Telegram-based betting messages using natural language processing with Tensorflow on **AWS Lambda**. Established an infrastructure to support the platform using FastAPI, Python, and PostgreSQL.
- Automated production tasks for a client, resulting in a **30% cost reduction** and savings of **\$10,000**.

## SKILLS AND EXPERTISE

**Language Skills:** Java, Python, C, SQL, HTML, CSS, Javascript, Flutter

**Frameworks:** Micronaut, Spring Framework, Django, Flask, FastAPI, Pytorch, Tensorflow, Caffe, Keras, Scikit-learn

**Tools and Technologies:** Google Cloud, AWS, Data Structures and Algorithms, GitHub, Jira, Docker, Firebase

**Soft Skills:** Research, Leadership, Team Management, Networking, Public Speaking

## ACADEMIC PROJECTS

### Drug Recommendation System (Med-Get) | Python, Django, Tensorflow, Keras, NLTK, HTML5, CSS

- Developed a website that allows users to add symptoms and NLP model predicts best five effective drugs.
- NLP model has been trained over the UCI ML Drug Review dataset of 200,000 patient drug reviews. Other functionalities include discussion forums, asking questions and calling a doctor.

### Cloud base Image Recognition | Python, AWS S3, boto, DynamoDB

- An elastic application was built that could automatically scale on demand and in a cost-effective manner using the PaaS cloud.
- Application was built for automatic video analysis, face recognition, and database matching using Lambda, S3, and DynamoDB, with automatic scaling to handle changing demand.

### Coll-Pool | Java, XML, Android-Studio, Google Firebase, NoSQL

- Developed a ride-sharing mobile app using Java and deployed on Firebase, with features for both riders and drivers.
- Conducted a successful beta test with over 300 participants and utilized multiple APIs from Google Cloud Platform.

### Virtual Voice Assistant | Python, Speaker\_recogniton, sklearn, pyaudio, scipy

- Designed a Virtual voice assistant using Python, having functionalities of answering questions, task reminders, opening apps, and other simple functions. The voice assistant also included Gaussian Mixture Model (GMM) for voice biometrics.

## PUBLICATIONS

- Fusion in Cryptocurrency Price Prediction----- IEEE Access Volume: 10
- DL-GuesS: Deep Learning and Sentiment Analysis-based Cryptocurrency Price Prediction -----IEEE Access Volume: 10