Yash Jitendra Modi

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Education

- **University of Texas at Arlington** — Arlington, TX, USA
  Master of Science, Computer Science; ***GPA 3.7*** — *Expected - May 2024*
  Courses: *Design and Analysis of Algorithm, Machine Learning, Artificial Intelligence, Data Analysis and Modeling Techniques, Data Mining, DBMS Models and Implementation*
- **Gujarat Technological University** — Ahmedabad, IND
  Bachelor of Engineering, Computer Engineering; ***GPA: 3.71*** — *June 2022*
  Courses: *Operating Systems(OS), Data Structures and Algorithms, Web Development, Object-oriented design, Software Engineering*

Skills Summary

- **Languages**: Python, Java, C/C++, JavaScript, React, HTML5, CSS, PHP, Scala, Bootstrap
- **Frameworks**: OpenCV, NLTK, SpaCy, TensorFlow, Pytorch,AngularJS, NodeJS, ReactJS, Django, Flask, Android JAVA
- **Development**: Web Framework, Back-End Engineering, Machine Learning, Natural Language Processing (NLP)
- **Tools**: Jupiter, Android Studio, GIT, GitHub,Hadoop, MapReduce, Pig, MySQL, MongoDb, PostgreSQL, SQLite
- **Platforms**: Web Application Development, GCP, Microsoft Azure, Tableau, Power BI, Unix, Windows, Docker
- **Soft Skills**: Leadership, Innovative, Collaborative, Quick Learner, Analytical and problem-solving, Critical Thinking

Experience

- **University of Texas at Arlington** — Arlington, TX, USA
  Graduate Research Assistant — *Sep 2023 - Present*
  - **Optimization and Machine Learning for Networks**: Spearheaded research in the field of Optimization and Machine Learning for Networks using Graph Neural Networks to apply on large Networks.
  - **Collaborated closely with Prof. Jinzhu Yu**: Applied advanced Graph Neural Network techniques to tackle complex network optimization challenges and contributed to groundbreaking research.
- **iWant Technologies PVT. LTD.** — Ahmedabad, IND
  Software Engineering Intern — *Jan 2022 - June 2022*
  - **Developed a thread-safe web application**: Leveraged core Java, Spring Boot, & MySQL to create a robust & secure backend development for telecommunication purposes. Ensured thread safety to enhance performance & reliability.
  - **Integrated RESTful APIs with frontend**: Show API design skill using Spring Boot and seamlessly integrated them with the frontend developed using AngularJS, SCSS, and HTML5, creating an user-friendly interactive interface.
  - **Implemented Agile methodology and collaboration tools**: Followed Agile method for software development cycle. Utilized Swagger for API documentation and BitBucket/GitHub for project collaboration and version control.
- **Infomize Technologies** — Ahmedabad, IND
  Machine Learning Engineer Intern — *June 2021 - Oct 2021*
  - **Enhanced productivity and revenue**: Used PyTorch Mmdetection to accelerate data mapping team's productivity by conducting Entity Classification and Table detection on document images. Generated an additional $650K in revenue and achieved a significant 70% increase in customer acquisition. And Dockerized the model to deploy on Azure
  - **Accurate object detection**: Implemented FasterRCNN Object Detection Algorithm, achieving 82% mean Average Precision (mAP). Detected precise bounding boxes for 20 classes, ensuring reliable results.
  - **End-to-end project involvement**: Actively participated in fast paced and team-based environment managing all aspects of the project, including model training, RESTAPIS deployment, and seamless integration with the frontend.

Projects

- **PlantConnect: Farm AI Helper (Android: Java, Python, PyTorch, Keras, FastAI, TFLite)**: Analyzed model accuracy using ResNet and FastAI on both desktop and mobile (Keras). Developed an mobile application for disease detection, identifying 20 diseases across 14 crops using a trained model with a dataset of 34,005 images.
- **TailorSweat: Workout Prediction Application(Python, CNN, Data Engineering, Knowledge Rule Generation, Reinforcement learning)**: Did Data Modeling, Validation and Processing on collected data. Developed workout prediction app based on user preferences and profile settings. Implemented machine learning algorithms and a neural network to suggest personalized workouts. Stored predictions & continuously improved the system based on user feedback weighted aggregation.
- **Attendance Management System (Django, CSS, SCSS, and MySQL)**: Developed a web application with HOD, Faculty, and Student interfaces for attendance marking, assignment management, student/class management, and notice distribution. Implemented features like store attendance records, faculty-student communication, and unique attendance marking method.
- **Stock Market Prediction using Numerical and Textual Analysis (Python, NLTK, RNN, ANN)**: Performed Textual Sentiment Analysis(Natural Language Understanding (NLU)) on financial news headlines using NLTK and RNN (Keras). Evaluated Naïve Bayes, GRU, and deep learning models (ANN, MLP) for stock price prediction based on sentiments. Achieved the lowest RMSE of 0.22287 with MLP, while ANN had an RMSE of 0.33761.

Publications/Certifications

- **Springer Book Series**: Modi, Y., Panchal, M., Bhatia, J., Tanwar, S. (2022). Blockchain-Based Software-Defined Vehicular Networks for Intelligent Transportation System Beyond 5G.https://doi.org/10.1007/978-3-030-87049-2_17
- **Springer Journal Article**: Modi, Y., Teli, R., Mehta, A. et al. A comprehensive review on intelligent traffic management using machine learning algorithms. Innov. Infrastruct. Solut. 7, 128 (2022).https://doi.org/10.1007/s41062-021-00718-3
- **Coursera Certification**: Machine Learning by Stanford, AWS Cloud Practitioner Essentials, Deep Learning Specialization