RACHANA DEREDDY

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EDUCATION

Columbia University, New York, NY
Master of Science in Computer Science, Specialization in Machine Learning Expected Dec 2022
Courses: Machine Learning, Practical Deep Learning, Analysis of Algorithms, Cloud Computing and Big Data

Vellore Institute of Technology, Vellore, IN
Bachelor of Technology in Computer Science, CGPA: 8.57/10.0 Jul 2021
Courses: Natural Language Processing, Introduction to Databases, Statistics, Applied Linear Algebra

SKILLS

Languages and Software: Python, HTML, CSS, SQL**,** TensorFlow, PyTorch, Keras, Scikit-learn, PostgreSQL, React Native, Tableau, Flask, OpenCV, Latex; **Computing Environment**: MATLAB, XCode, R-Studio, Visual Studio Code; **AWS**: SQS, S3, Elastic Search, Lambda

WORK EXPERIENCE

Columbia University, New York, NY Jan 2022 – Present
Machine Learning for Social Sciences Teaching Assistant

- Tutored 75+ students on concepts on machine learning, linear algebra, statistics. Collaborated with the professor to grade problem sets, prepare exam material and held weekly recitation and office hours to clarify the course material.

Tata Consulting Services, Hyderabad, IN
Software Engineer Intern Jan 2021 - Jun 2021

- Collaborated on project Implementation of National Rural Employment Guarantee Scheme. Completed multiple tasks related to data submission forms, retrieval from database with more than **20,000+** data entries
- Designed a request tracking system enabling clients to raise request from 5 departments for different requirements in a project resulting in an efficient way to request tracking. Technologies/tools used were Eclipse, PL/SQL, jboss server. Mainly used java frameworks, MVC model to build the application.

Jawaharlal Nehru Technological University, Kakinada, IN
Computer Vision Research Intern Apr 2020 - Nov 2020

- Devised an object-detection-based signal logic scheme to regulate growing traffic at junctions, done by splitting green-time based on real-time traffic density utilizing real-world datasets of 4 junctions in Kakinada Smart City. Selected for 2020 IEEE Applied Imagery Pattern Recognition Workshop (AIPR)
- Analyzed data from CCTV footage to train YOLO-based model to derive vehicle count by converting it to PCU's. Implemented Linear, Quadratic Regression models to predict green time with a minimum RSME value of **0.06**

National University of Singapore, Singapore, SG
Academic Intern Dec 2019 - Jan 2020

- Applied various Machine Learning algorithms such as Alexnet, VGG-16, CNN for classifying fake and real images
- Curated own dataset through web crawler to obtain over **15,000** images from websites. Developed a user-friendly website deploying Flask to display results of input image and achieved an accuracy of **68%**

Laalsa Business Insights, Hyderabad, IN
Data Science Intern May 2019 - Jun 2019

- Extracted contact information of restaurants from Zomato through BeautifulSoup into NoSQL database
- Implemented Regression models like Linear, Logistics, Polynomial Regression to predict average cost of restaurants with an accuracy of **75%**. Utilized Selenium API to scrape a large amount of data for further analysis and increased their profits by **5%**

PROJECTS

Audio-based Social Media App using AWS Sept 2021 - Dec 2021

- Built voice driven interface where users audio record questions that are answered by people who have knowledge in that area
- Developed prototype and interface screens, getting API's and triggering lambda functions to retrieve information from the backend and used several AWS services to ensure proper functioning of the app. Used React Native for developing the front-end and NodeJS for the backend

Voice Enabled Photo Album using AWS Sept 2021 - Nov 2021

- Designed and deployed (via AWS Code Pipeline) a front-end application to handle search requests, display results and upload new photos where the user can specify custom labels with voice accessibility
- Utilized Lex bot to handle search queries, S3 buckets to store the photos, Elastic Search index to search for the photos and Rekognition to create an intelligent search layer to query photos for people, objects, actions and detect labels in the image.

Classification of cancerous cells using CNN model Dec 2019 - Apr 2020

- Categorized benign and four different types of malignant with BreakHis Breast Cancer Histopathological Image Database consisting of over 8000 images. Modeled and compared using KNN, Pre-trained networks, CNN with a testing accuracy of 90.4% and finally developed a web application using Flask

Social Media Bias using Centrality Measures and ML Jul 2019 - Nov 2019

- Published Research paper in Springer Nature on analyzing social media bias of Twitter and Facebook data. Applied EDA to the data and obtained data using specific keywords applying ML classifiers by comparing differences to strengthen predictions and visualizing results to gain more insights with an accuracy of **75%**