Surya Roshan Mugada

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EDUCATION

University of Southern California, Viterbi School of Engineering, Los Angeles, CA — May 2023
Master of Science, Computer Science - GPA **4.0/4.0**
Relevant Coursework: Analysis of Algorithms, Database Systems, Programming Design Paradigms, Artificial Intelligence

JNTUH College of Engineering Hyderabad, India — Jul 2021
Bachelor of Technology, Computer Science and Engineering – CGPA **9.05/10**- (Awarded **First Class with distinction)**

TECHNICAL SKILLS

Languages: Python, C, C++, Java, Javascript, HTML, CSS, SQL, Prolog, React, Node.js, C#, PHP
Tools & Technologies: Django, Distributed Computing, AWS, GCP, Hadoop, Spark, Git, Pandas, Tensorflow, Oracle, SQL Server

WORK EXPERIENCE

Software Developer Engineering Intern, **Wipro Limited,** India — Jun 2020–Jul 2020

- Worked on improving the accuracy of a text classifier by implementing various text processing methods and comparing different models. - Successfully implemented and obtained an improvement of accuracy from **65%** to **83%**.
- Tools used: Python – Scikit Learn, NLTK, Naïve Bayes and Ridge Classifier, Javascript.

Software Engineering Intern- Full stack developer, **JNTU Innovation Hub,** Hyderabad, India — Jan 2020–Jun 2020

- Built a **knowledge base** to develop a new feature, a conversational **ChatBot** using Microsoft Cognitive service (qnamaker.ai) to answer admission-related queries, thus minimizing human involvement and reducing reply time-obtained an accuracy of **90%**
- Built a functional Research & Development student portal using **Django**.

***Machine Learning Intern,* Dapplogix Software Pvt Ltd,** Hyderabad, India — May 2019–Jun 2019

- Developed a Machine Learning Module which does **Sentiment Analysis** and performs a user activity check of the uploaded CVs of Job applicants by statistical analysis. This is an essential part of www.hirestar.io.
- Used Twitter API to retrieve tweets of a user and perform sentiment analysis (accuracy - **88%**), further classify into various **genres** and obtain **statistical information of the user's activity**.
- Tools used: Python, Scikit-Learn, Pandas, NLTK, matplotlib, textblob.

PROJECTS

Machine Learning - Identifying Personal Attacks in Wikipedia Comments: Foundation of AI (CS5100) Project

- Improved the Macro average F1 score from **78%** (baseline) to **87%.**
- Performed data analysis, hyperparameter tuning, data cleaning & preprocessing, and tested various models.
- Tools used: Python, Scikit Learn, Pandas, Seaborn, Keras

Object-oriented design & Networking - Chat Room Application using Socket programming

- Created a real-time object-oriented design-based chatroom application supporting **multiple client interactions** supporting direct and broadcast messages via server using Java Sockets.
- Designed a scalable chatroom protocol class to support **various message formats** making the application **robust** & **efficient**.
- Tools used: Java, Multi-threading, Socket Programming, Object-oriented programming, Input & Output Streams, Regex

Neural Networks - X-Ray Image Classification for Detection of Hand Fractures Using Transfer Learning

- Used transfer learning and image preprocessing on deep learning models to obtain an **improvement of 10%** accuracy compared to existing models.
- Experimented with various models using Tensorflow - Keras and Obtained an accuracy of **80%** using MobileNetV3.

Machine Learning (NLP) - Extractive Text Summarization for Science Articles

- Used K-Means Clustering, Text Rank with similarity and dissimilarity matrix for summarization of science articles.
- Used A/B testing to avoid developer bias- obtained an accuracy of **82%**

Database Management & Machine Learning –Face Recognition Attendance System:
National Informatics Center, Ministry of Electronics & IT, Government of India

- Developed a face recognition software to **register**, **recognize** and **mark attendance** of employees in a database without human touch with an accuracy of **96%**.
- Real-time **database management**- updated the database using psycopg2 & **overcame problems such as accidental registering**, **duplicate entries,** and **proxy attendance marking**.
- Tools: Python- OpenCV, Tkinter, PIL, face_recognition packages and PostgreSQL.

Full stack development project - Chrome extension (Focuser)

- Used JavaScript, HTML, CSS to build a **fully functioning chrome extension**- Focuser- for blocking distracting websites.
- Added features **supporting customizations** such as blocking time, blacklisted websites, and blocking screen.

INTERESTS AND ACTIVITIES

Head of Coding Club at JNTUHCEH- Conducted various activities to enhance the learning and teamwork culture at JNTUHCEH.
CSE Soccer Team - Winners - 2020, Runners up - 2019: JNTU interdepartmental sports tournament.