MAHAVIR CHANDALIYA

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EDUCATION

Master of Science in Computer Engineering, specializing in Machine Learning Engineering **(Jan, 2022 - Present)**
San Jose State University, San Jose, CA
Relevant Coursework: Machine Learning, Data Mining, System Software, Quality Assurance and Testing, Advance computer design, Statistics.

Bachelor of Engineering in Computer Science and Engineering **(Aug, 2016 - Nov, 2020)**
D.J. Sanghvi College of Engineering, University of Mumbai, India
Relevant Coursework: Applied Math, Algorithms and Data Structures, Advanced Algorithms, Databases (SQL) and Big Data (Hadoop).

TECHNICAL SKILLS

Programming languages: *Python, R, C, C++, Java, SQL, and PHP*.
Data science tools: *Pandas, NumPy, Scikit-learn, NLTK, TensorFlow, Keras, Spark, Matplotlib, Seaborn, Power Bi, Tableau, Excel, Large ML Models.*
Web development: *HTML, CSS, JavaScript, Node, React, Django, Amazon Web Services (AWS), Google Cloud Platform (GCP), and Heroku.*
Databases and Data technologies: *SQL, MySQL, MongoDB, Hadoop, RoboFlow, Cassandra.*
Other software's and tools: *Android Studio, React Expo, RStudio, Anaconda, Jupyter Notebook, Linux, Virtual Machines, Git and GitHub.*

EXPERIENCE

NRAT Student Assistant at Ecampus, San Jose State University, San Jose, CA **(June, 2022 – Sept, 2023)**

- Employed as an IT Student assistant at Ecampus, solved 1000+ queries and helped 500+ students and teachers with installation and troubleshooting of various instructional software, such as Canvas, Zoom, Qualtrics, Proctorio, Google applications, Camtasia, Adobe Creative Cloud, Snagit as well as worked in development of SJSU websites, accessible documents and class materials.

Software Engineer Intern at Reckon Energy, Wardha, India **(July, 2019 – Sept, 2019)**

- During my tenure as a Software Intern, I undertook multifaceted responsibilities that encompassed customer engagement, database management, and network infrastructure for the company. Used CRM software to engage with customers and manage the company's database. Additionally, I worked on the company's website using technologies such as HTML, CSS, JavaScript, and various content management systems (CMS). I leveraged database tools, such as SQL and NoSQL databases, for efficient data management and retrieval.

PROJECTS

UAV-based Powerline Fault Detection and Classification using Deep learning, San Jose State University **(Oct, 2023)**

- Under master's project developed an application to detect faults in various powerline components from aerial drone images using various models like COCO, YOLOv8 and deployed the application on DASH app and ultralytics HUB. Used roboflow for Data annotations and Pre-processing. Working on publishing a Research paper based on the project.
- **Skills and Tools:** Python, Roboflow, tkinter, DASH, YOLOv8, COCO, Numpy, Pandas, Data annotations, Power line aerial images as dataset.

Book Genre Prediction, San Jose State University **(Dec, 2022)**

- Deployed an Automated genre classification application that utilizes deep neural network models to predict genres of literature from book summaries using CMU book summary and Blurb genre collection datasets. Performed data cleaning, augmentation, EDA, feature extraction, tokenization and implemented a multi-label classifier using Linear SVC and models such as SGD (Tri-gram) and LSVC (Bi-gram).
- **Skills and Tools:** Natural Language Processing, Python, Numpy, Pandas, Keras, NLTK, Scikit-Multilearn, Flask, Matplotlib, Word processing.

Age, Gender, Emotion Prediction using Facial Data, San Jose State University **(Aug, 2022)**

- Developed a real-time application which predicts the age, gender and emotion from facial data and displays output on live video. Trained 3 different deep learning models utilizing CKPlus dataset for emotion and UTKface dataset for age and gender prediction. Applied MTCNN face detection algorithm for detecting faces and opencv for image processing and rendering results on the screen.
- **Skills and Tools:** Image Processing, Computer Vision, Python, Keras, Sklearn, tkinter, Pickle, OpenCV, PIL, MTCNN, NumPy, Pandas etc.

Blood Analyzer, Image Processing and Computer Vision, University of Mumbai **(May, 2020)**

- Designed an Automated Blood Analyzer which estimates blood's RBC, WBC and platelet counts and also measures the haemoglobin levels from microscopic blood images. Utilized computer vision techniques like Blob detection, Contour Detection and Python's tkinter module for GUI and further classified the detected WBC's into 4 different classes by training a ML model on WBC dataset from Kaggle.
- **Skills and Tools:** Image Processing, Computer Vision, Python, tkinter, OpenCV, Scikit-image, NumPy, Pickle, PIL.

AI plays Snakes using Reinforcement learning, University of Mumbai **(Mar, 2020)**

- Built a classic snake game in Python with Pygame module and executed a snake-playing agent that uses Q-learning and deep neural networks to learn how to play snakes. Agent's performance is continually updated through training and is visualized with score plots.
- **Skills and Tools:** Python, Pygame, NumPy, Pytorch, Turtle.

PUBLICATIONS

Social Distancing Detection using Computer Vision, University of Mumbai **(April, 2021)**

- Developed a Social distance detector with Tensor flow, OpenCV and Python that enforces social distancing by monitoring a live video feed from a CCTV and measuring social distance in public places, used COCO dataset with 120,000 images for object detection.
- Presented the paper at the 5th International Conference on Computing Methodologies and Communication (ICCMC 2021), published by IEEE.

EXTRA CURRICULAR

- Won first place in AI Social Hackathon, 2022 organized by Intel, and topped in the ML category. Models: SVC, XGBoost, RandomForest.