

Barkha Amarlal Chainani

Orlando, FL, United States, 321-202-0721 barkhaamarlal.chainani@ucf.edu, LinkedIn, GitHub

Education

University of Central Florida

Orlando, FL

Masters in Computer Engineering, Software Systems and Algorithms specialization GPA: 3.4, Exp Graduation: Dec 2024
Relevant Coursework: Advanced Database Systems, Machine Learning, Data Intensive Computing

Savitribai Phule Pune University

Pune, India

Bachelors in Electronics and Telecommunication Engineering GPA: 7.66/10, Graduation: May 2020

Skills

Technical: Python, JavaScript, Ruby, C++

Frameworks & Libraries: TensorFlow, Flask, Django, Ruby on Rails, React.js, Node.js

Tools & Technologies: Git, Docker, Asana, PowerBI, HTML/CSS, Plotly

Databases: PostgreSQL, MySQL, SQLite

Cloud Platforms: Azure Document Intelligence Services, Google Cloud Platform (GCP)- ML APIs, BigQuery, TensorFlow.

Experience

University of Central Florida

Orlando, FL

Research Assistant

June 2023 - July 2023

- Prototyped teacher dashboard with assistive features to aid in live and offline education and 2 dashboards, in PowerBI and Python-Plotly.
- Developed a prototype for analyzing student-written responses during learning sessions, utilizing the spaCy library for subject, verb, and object identification to enhance insights from intelligent tutor discussions.
- Conducted extensive literature review on affect and motivation detection using biometric data, including expressions, AUs, pulse rate, and eye tracking, leading to a proposal of data visualization solutions for instructor dashboards.

University of Central Florida

Orlando, FL

Personalized Adaptive Learning Assistant

September 2023 - Present

- Developed 10+ STEM course modules for 200+ students on multiple LMS platforms, created 2 PowerBI dashboards for potential project use, and automated 2 workflows in Asana Project Management Tool.
- Evaluated accessibility of 3 major markdown formats (LaTeX, MathML, MathJAX)improving content accessibility, awarded the Outstanding Collaboration Award for Accessible Math in May 2024.

Tata Consultancy Services

Mumbai, India (Remote)

Associate Systems Engineer

January 2021 - June 2022

- Implemented 30+ HTML structural changes for the frontend across 100+ customized CRM views.
 - Resolved layout issues in 10+ views using version control, ensured 100% stability, enhanced 2 CRM UI elements with JavaScript, and automated 4 biweekly sales reports, reducing reporting time by 60%.
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Projects

Real-Time Face Detection

(TensorFlow, Deep Learning, Computer Vision)

- Created a real-time face detection application using deep learning techniques, implementing a custom dataset from webcam images and addressing low image sharpness to improve real-world model performance.
- Augmented and annotated the dataset using the Albumentation library, increasing the dataset size by three times and enhancing variety.
- Trained and tested the neural network, evaluating performance metrics to improve detection in real-time conditions.

GNN-SOM Prediction for Biomedical Data

(Graph Neural Networks, ML Techniques)

- Enhanced existing research on Site of Metabolism (SOM) prediction by working with pretrained Graph Neural Network (GNN) models, applying feature engineering and ensemble learning.
- Utilized k-means clustering, Pearson correlation, and network profiling to evaluate model performance and understand feature importance.
- Identified redundant links to optimize network architecture, supporting feature selection efforts for SOM predictions.

Movie Recommendation System

(Python,scikit, pandas, keras, IMDB Dataset)

- Developed a movie recommendation system using the IMDB dataset and vectorization techniques to make personalized recommendations.
- Designed a front-end interface for the application, deployed on Heroku, to allow users to interact with the recommendation system.