### Manasi Rajesh Mathkar

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#### **EDUCATION**

## University of Southern California, United States of America Master of Science: Computer Science

08/2022 - 05/2024

**CGPA 3.85** 

- Classes: Analysis of Algorithms, Database Systems, Foundations of AI, Machine Learning, Security Systems, Information Retrieval and Web Search Engines, Advanced NLP
- Leadership: WIE Mentor

# Thadomal Shahani Engineering College (TSEC), Mumbai University

08/2018 - 06/2022

CGPA 9.53/10

- **Bachelor of Engineering: Information Technology**
- Publications: Customizing Insurance Product Based On Customer Data Leveraging Learning Algorithms,
   To laugh or not to laugh LSTM based humor detection approach
- Awards/Honors: Envoy of TSEC 2021-2022, TSEC Student Ambassador 2021-2022

#### TECHNICAL SKILLS

Programming/Scripting languages: Python, Java, C, C++, JavaScript, SQL, HTML5, CSS3, AJAX, Ruby, Shell Script

Databases: Oracle 11g, MySQL, PostgreSQL, MongoDB, Firebase, PHP

**Development tools/ frameworks:** React.js, Node.js, Django, C#, .NET, Flask, Android Studio, Flutter, AWS, GCP, Azure, Git **Other:** Pytorch, Tensorflow, OpenCV, Jenkins, Docker, JIRA, Apache Spark, Kafka, RESTful Services, NetBeans, Operating Systems

#### **EXPERIENCE**

#### ML and AI Research Intern | Suvidha Foundation

01/2022 - 04/2022

- Led a team of seven to develop and deploy an Automated Video Summarization (AVS) model using Python, TensorFlow, and Bidirectional LSTM, achieving 92% accuracy by integrating advanced encoder-decoder mechanisms to dynamically generate video summaries, enhancing user understanding and interaction
- Orchestrated the application's deployment, enhanced the frontend using React for improved interactivity and managed the backend with Flask for robust API handling, streamlined project workflows using Git, containerized with Docker for consistency, and deployed on AWS for scalability and enhanced performance

## Envoy and Database Manager | TSEC - Training And Placement Cell

04/2021 - 06/2022

- Developed a Flask-based open-source application with Jinja and PostgreSQL, enhancing campus placement operations and achieving a 100% placement rate by automating data workflows and improving data retrieval accuracy
- Coordinated and automated campus events, including seminars and tests, leveraging technical and leadership skills to streamline operations and ensure efficient execution

## Web Developer Intern | Ladli Foundation Trust

06/2021 - 07/2021

- Led the development and deployment of a dynamic full-stack website for the organization's founder, using ReactJS for frontend and Django for backend, which was hosted and managed via AWS S3
- Engineered user-friendly interfaces with ReactJS, enhancing site responsiveness and interactivity, significantly improving user engagement metrics by optimizing load times and code
- Utilized AWS services including S3 for storage and deployment, CloudFront for content delivery, and Route 53 for DNS management to
  ensure high availability and scalability of the website

## Web Developer Intern | Psychologia Connect Pvt Ltd

04/2020 - 05/2020

- Spearheaded the design and implementation of a comprehensive mental health platform using a stack of HTML5, CSS3, JavaScript, Python, Django, and MySQL, enriched with AJAX for asynchronous data updates and Bootstrap for responsive design, deployed using Docker containers for consistency across development, testing, and production environments
- Implemented advanced security protocols including OAuth for authentication and SSL/TLS encryption, coupled with automated deployment processes using Docker and Jenkins for continuous integration, which reduced deployment times by 30%

#### **PROJECTS**

# **ChatGPT Clone with ReactJS**

06/2023 - 08/2023

- Implemented a ChatGPT Clone application utilizing Next.js 13, featuring dynamic page routing and a structured app folder layout, combined with TypeScript and efficient API endpoints for effective data management and ChatGPT model interactions
- Enhanced backend capabilities using Firebase and NextAuth.js, including Google Authentication, alongside implementing Tailwind CSS for a responsive and intuitive user interface design

## SBERT-Based MLOps for News Search Engine Deployment

04/2023 - 06/2023

- Developed a Flask API leveraging Elasticsearch for advanced full-text search capabilities, which significantly enhanced the efficiency of retrieving news articles, achieving a 30% increase in query precision and a 25% boost in user engagement durations
- Enhanced semantic search capabilities by customizing an SBERT model and integrating ANNOY for rapid indexing, using Kubernetes for orchestration and Prometheus for monitoring, all containerized with Docker for robust and scalable deployment on AWS

## **Customizing Insurance Products Based on Customer Profile Leveraging Data Analytics**

09/2021 - 06/2022

- Developed a Heroku-hosted web application using Random Forest and XGBoost, achieving 80% accuracy in personalizing life insurance products and optimizing models through advanced feature engineering and hyperparameter tuning
- Investigated diverse machine learning techniques and enhanced data processing with Apache Kafka and Apache Spark, leading to a
  publication in IEEE Xplore and a presentation at the 4th ICAECC-2022