

Maahi Patel

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EDUCATION

University of Illinois, Urbana-Champaign
Masters of Computer Science, GPA 4/4

Champaign, IL
December 2023

Charotar University Of Science and Technology
Bachelor of Technology, Computer Science & Engineering, GPA 9.32/10

Gujarat, India
May 2022

PROFESSIONAL EXPERIENCE

National Centre for Supercomputer Applications- Machine Learning Engineer

August 2022- Present

- Development of **FAIR framework** using **High-Energy Physics (HEP)** data to advance understanding of AI, collaborating with MIT, UCSD, and UM Universities on **Higgs boson decays dataset** by **CERN Large Hadron Collider**
- Applied advanced **Variational Autoencoders (VAEs)** to achieve robust **uncertainty quantification**, while concurrently overseeing the full project lifecycle – encompassing initial model training, comprehensive testing, and the seamless implementation of the deployment pipeline. [Github](#)

Kintu Designs Pvt Ltd- Data Science Engineer

May 2021- May 2022

- Collaborated with the clients in an **Agile setup** and daily scrum meetings for efficient delivery of tasks
- Developed a real-time **Time Series Forecasting** web application for stock prices of **15** companies from Yahoo Finance. Utilised LSTM, ARIMA, and RNN models, achieving **78% accuracy**. Additionally, created an API to facilitate seamless integration
- Engineered the application using **Python** and **JavaScript** to optimise data retrieval, resulting in approximately **15 hours saved** per week. Redesigned the user interface with **React** and **CSS** to be more intuitive, which led to a **40% increase** in user engagement

Harikrushna Technologies Pvt Ltd- Data Science Intern

April 2020- July 2020

- Conducted Python-based **web scraping** to gather customer data from diverse websites, followed by insightful **Exploratory Data Analysis (EDA)** for data driven decision making
- Seamlessly integrated **MySQL** database with **PowerBi**, executing **ETL(Extract, Transform, Load)** processes to create an interactive dashboard enabling data visualisation and actionable insights to generate **40%**

Feature IT LLC - Machine Learning Intern

April 2019- July 2019

- Engineered an advanced **parking system** using computer vision methods to **detect vehicles** in real-time with **YOLOv4**, achieving **96% accuracy**
- Enabled smooth communication and acknowledgments via the server using **MQTT protocol** upon vehicle detection
- Improved system **efficiency** by **44%**, resulting in better user experience and more efficient parking

PROJECTS & PUBLICATIONS

GPT-4 Prompt Engineering for Software Engineering Tasks [Github](#)

- Developed a **multi- turn prompt engineering engine** to perform software engineering tasks like **Code Reasoning**, **Bug Localization**, **Code Refactoring**, **Test Generation** and **Data & Control Flow Mutations**
- Enhanced task-specific outputs by meticulously **engineering & tailoring prompts** for **GPT-4**, ensuring optimal context & delivering precise result

Customer Journey Analysis and Optimization for eCommerce Website

- Utilised **Tableau**, **PowerBI**, and **SQL** to analyse customer data, identifying **25,000 observations**, found **patterns & trends** in customer behaviour.
- Conducted data cleaning & preprocessing, providing valuable **insights** and **12 actionable features** to enhance the customer journey
- Employed Machine learning techniques (regression, clustering, decision trees) for in-depth insights into customer **decision-making** processes

WatchNext - Movie recommendation

- Built a user-friendly **Recommendation system** utilising **collaborative filtering**. This system allows users to rate movies they've watched, receiving accurate suggestions based on shared interests with other users.
- Reconstructed Accomplished this using **HTML**, **CSS** and **Javascript** for front-end, **PHP** and **MySQL** for back-end and Database respectively; deployed using **Heroku**

PUBLICATIONS

- [Sign To Text Conversion- Helping Aid](#), International Journal of Scientific Research in Computer Science, Engineering and Information Technology(IJSRCSEIT)
- [Pneumonia Detection using Transfer Learning](#), International Journal of Engineering Research & Technology (IJERT)
- [Accelerated Data Science using Rapids](#), International Journal of Research and Analytical Reviews (IJRAR)

TECHNICAL SKILLS

- **Programming Languages:** Python, MATLAB, Java, C, C++, R, Flutter, Javascript, HTML, CSS, Android
- **Database & Cloud:** MySQL, AWS, MongoDB (NoSQL), SQLite, Heroku, Azure
- **Technologies and Tools:** Github, Docker, Jenkins, Kubernetes, Postman, Gitlab, Linux
- **Python & DL Libraries:** NumPy, Pandas, Matplotlib, PyTorch, TensorFlow, keras, NLTK, OpenCV, XGBoost, Tesseract
- **Analytics & Other Frameworks:** Tableau, Excel, PowerBi, Hadoop, Spark, DataBricks, ETL, Node.js, React, Flask, Django