JAY JHAVERI

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EDUCATION

Masters of Computer Science — **Sept 2022 – June 2024**

University of California San Diego (UCSD) — CGPA: 3.979/ 4

Relevant Courses: Deep Learning, Scalable ML Systems, Recommender Systems, Computer Vision, NLP – LLMs, Algorithms

Bachelor Of Engineering (Computer Engineering) — **August 2018 – July 2022**

Vivekanand Education Society's Institute of Technology (VESIT) — CGPA: 9.013/ 10

Relevant Courses: Machine Learning, Software Development, Natural Language Processing, Big Data (Hadoop/Spark) Analytics

EXPERIENCE

Machine Learning NLP and CV, **Ujima S&P Lab, UC San Diego** — **March 2023 – Present**

- Led 3 freshers through the Early Research Program in curating a database using LLMs, Clustering, and NER for HCI Research.
- Built a "Smart Mirror" on Raspberry Pi using the VGG-Face TF-Lite Model, trained on 100,000 images, to detect ethnicity, highlight the existing biases in CV datasets, and contribute to the public domain via user feedback.

Data Analyst & Cyber Security Intern, **Legendary Entertainment** — **June 2023 – Dec 2023**

- Created a Python automation script to generate a dashboard that reduced the total time taken by the SOC analyst from 80 minutes to about 4 minutes daily in tracking user-anomaly events by integrating Splunk Dashboard and Azure MSGraphs APIs.
- Maintained a high level of security while streamlining a user's authentication process by integrating a FIDO Alliance product into the existing SAML/OIDC SSO workflow.
- Assisted the VP of security in laying the foundation of a next-gen universal anomaly and user-behavior detection platform based on LLMs in collaboration with Sky High Security by building a prototype in Splunk.

Undergraduate Research Assistant, **Tata Institute of Fundamental Research (TIFR)** — **June 2021 – May 2022**

- Led a team of 4 to develop an android Java application that monitors a selected directory and uses multi-part upload methodologies to encrypt and securely upload to the dedicated remote server.
- Published a paper explaining our Node JS based Fault Tolerant client server architecture connected to remote stations.
- Utilized GCP's Maps and Sheets API to design a real time HTML/CSS based live Geo tracking website from the collected data.

Full Stack Development Intern, **Makos Infotech (Startup)** — **June 2021 – August 2021**

- Integrated and developed server-side code using JQuery, PHP, and MySQL for an early fast-paced startup targeting the automation of the On-campus placement process using Agile Methodologies.
- Created and merged relational databases using MySQL workbench and deployed it on AWS RDS to develop a college-student-company social network inspired by Facebook's friend system.
- Established a mentorship-onboarding program for new undergraduate interns, aligning them with the existing codebase and processes, saving the company at least 1 week of time and effort.

Data Analyst Intern, **Leadingindia.ai** — **May 2020 – July 2020**

- Collaborated with a team of four to develop a vaccine prediction model for H1N1 and seasonal flu vaccines, accurately predicting public acceptance trends (41%) for the COVID-19 vaccine, securing first place among 85 intercollege peer groups.
- Published a research paper in Springer & authored a blog highlighting the correlation between H1N1 and COVID-19 pandemics.

PROJECTS

Inquirable Models: Increasing Explainability in Health-AI using LLM — **Sep 2023 – Jan 2024**

- ✓ Conducted a two-phase exploratory study using prompt engineering techniques on leading Large Language Models (LLMs) with SHAP values to improve the interpretability of traditional medical risk models and reduce patient risk.
- ✓ Paper's poster accepted for presentation at the AMIA 2024 Annual Symposium highlighting the confabulation rate and quality.

MedLM: Exploring Language Models for Medical QnA Systems (Paper) — **March 2023 – Aug 2023**

- ✓ Led a team of 4 to fine tuning language models (Bloom, T5, GPT-2) on the MedQuad dataset in collaboration with Microsoft researcher Dr. Asma Ben Abacha.
- ✓ Compared performance against GPT-3.5 and GPT-4 using Dynamic Prompting with Retrieval Augmented Documentation (RAG) via medical InstructOR Embeddings on the patient questions.
- ✓ Increased the ROUGE and BLEU scores by 10% using a Bert Classifier to give extra contextual awareness to the models.

Game Genre and Recommendation Classification using Steam Reviews — **Nov 2022 – Dec 2022**

- ✓ Designed ETL data pipelines to preprocess and apply machine learning techniques for classifying game genres, analyzing user sentiment, and curating a personalized game recommendation system using user reviews and collaborative filtering.
- ✓ Achieved 90.53% accuracy with Decision Trees, balanced data & TF-IDF, outperforming N-Gram, Multinomial NB, Linear SVC.

Divya-Drishti: An Independent Aid for the Visually Impaired (Paper) — **Aug 2020 – May 2021**

- ✓ Achieved a 400% net cost reduction by creating a real-time Voice-activated AI-IoT android application to help Visually Impaired People (VIPs) comparable to state-of-the-art OrCam in multimodal classification of currency, objects utilizing GCP's Vertex AI.
- ✓ Published a research paper highlighting the needs of VIPs, funded by the Mumbai University Minor Research Grant.

SELECTED CERTIFICATIONS AND PUBLICATIONS

- *AWS Certified Cloud Practitioner (CCP)*, Amazon Web Services, Credly Link

- *Machine Learning Based Prediction of H1N1 and Seasonal Flu Vaccination*. Advanced Computing. IACC 2020. Springer. DOI.org Link

Skills: Python, PyTorch, Tensorflow, OpenCV, Java,Neural Networks, Splunk, SQL, C, Linux, Git, AWS, Azure, Google Cloud, Firebase