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, Cloud Compute, Big Data Analytics

EXPERIENCE

Machine Learning NLP and CV, **Ujima S&P Lab, UCSD** **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.

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

- Integrated and developed backend code using JQuery, PHP, and MySQL for an early startup targeting the automation of the On-campus placement process using Agile Scrum 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 design choices using UML, saving the company at least 1 week of time and effort.

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.

PROJECTS

Alt Bot for Mastadon: An automatic image alt generation bot (Presentation) **Sep 2023 – Dec 2023**

- ✓ Developed a REST-API based Chrome extension in JS to help visually impaired people browse decentralized social media feeds by leveraging hugging face image captioning models to generate alternative image descriptions.
- ✓ Deployed 3 levels of custom cache system to ensure efficient performance with minimal lag complemented with testing scripts.

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.

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.

Automated Number Plate Recognition and Parking System **Dec 2019 – Feb 2020**

- ✓ Built an Android Java based application connected to a Firebase server to automate security and space availability in car parking systems by monitoring the number plates detected at the exits using Tesseract OCR.
- ✓ Utilized already installed CCTVs at the entry and exit gates of parking lots to save costs.

International Flutter Hackathon: Healthy While Distant **June 2020 - 48 hours**

- ✓ Devised a user-friendly Flutter app that leveraged smartphones' existing Bluetooth Low Energy (BLE) technology to help users maintain social distancing during the COVID-19 pandemic and alerted on a violation.
- ✓ It was combined with an additional feature of teaching yoga positions to promote positive mental health.

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, Android Studio, Java, Flutter, Data Structures, PyTorch, HTML, CSS, Javascript, SQL, C, Linux, Git, AWS, GCP, Firebase