JAY JHAVERI

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EDUCATION

Masters of Computer Science **Sept 2022 – June 2024 (Expected)**
University of California, San Diego (UCSD) CGPA: 3.97/ 4
Relevant Courses: Deep Learning, Scalable ML Systems, Recommender Systems, Advanced NLP-LLMs, Computer Vision

Bachelor Of Engineering (Computer Engineering) **August 2018 – July 2022**
Vivekanand Education Society's Institute of Technology (VESIT) CGPA: 9.013/ 10
Relevant Courses: Software Engineering, Distributed Systems, Big Data (Hadoop), Cloud computing, DBMS, Web Development

INTERNSHIP EXPERIENCE

Graduate Student Researcher, **Ujima S&P Lab** **March 2023 – Present**
- Built a "Smart Mirror" on Raspberry Pi using the VGG-Face Model to detect ethnicity, address the biases in CV datasets, and contribute to the public domain via user feedback.
- Developed a rule-based security chat assistant using Rasa in an unstructured, fast-paced startup-like environment.
- Led 4 undergraduates through the Early Research Student Program in analyzing privacy data for MMO AR/VR games using TF-IDF and K-means Clustering.

Machine Learning & Cyber Security Intern, **Legendary Entertainment** **June 2023 – Dec 2023**
- Created a shortcut 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 via Python Scripting.
- Maintained a high level of security while streamlining a user's authentication experience by integrating a FIDO Alliance product into the existing 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.

Full Stack Development Intern, **Makos Infotech** **June 2021 – August 2021**
- Integrated and developed server-side backend code using JQuery, PHP, and MySQL for an early 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.
- Led 2 new recruits in overhauling the website's existing design using tools like Figma and React JS.
- Pitched and demoed the online job placement portal to 3 University board members alongside the founding CEO.

Web Developer Intern, **VESIT Renaissance Cell** **June 2020 – July 2020**
- Led design and development of a Django-based Paper Publication Website for newly published work of Professors from the university hosted on Heroku.
- Developed a Portfolio Website template using HTML/CSS/JS and Bootstrap, deployed on Google's Firebase.

PROJECTS

Alt Bot for Mastadon: An automatic image alt generation bot (Github) **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 (Github) **March 2023 – Aug 2023**
- ✓ Led a team of 4 to fine-tune language models (e.g., Bloom, T5, GPT-2) on the MedQuad dataset, in collaboration with Microsoft researcher Dr. Asma Ben Abacha, comparing performance against larger models (GPT-3.5, GPT-4) through dynamic prompting.
- ✓ Implemented ROUGE and BLEU metrics and conducted human surveys for doctors and patients to evaluate the models.

Aatmanirbhar Sanchar: Secure Self-Sufficient Communications (Github) **June 2021 – May 2022**
- ✓ Led a team of 4 to develop a secure, end-to-end encrypted, multimedia-supported chat application for the Tata Institute of Fundamental Research, integrating off-the-grid functionality for internal use.
- ✓ Utilized CI/CD practices to establish a client-server architecture leveraging Python, Node JS, and React JS.
- ✓ Collaborated implementing SHA-256 and AES-256 overlapped inside an HMAC envelope to protect against cyber attacks.

Divya-Drishti: An Independent Aid for the Visually Impaired **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 detecting currency, objects, and scenes.
- ✓ Published a research paper highlighting the needs of VIPs funded by the Mumbai University Minor Research Grant.

"Mental Health Messiah" Twitter Bot **June 2020 – Aug 2020**
- ✓ Developed sentiment analysis app using IBM-Cloud API, Twitter API, Python, Angular to help COVID related mental health issues.

SELECTED RESEARCH PUBLICATIONS

Inampudi S., **Jhaveri J.** et al., (2021) **Machine Learning Based Prediction of H1N1 and Seasonal Flu Vaccination**. Advanced Computing. IACC 2020. Communications in CIS, vol 1367. Springer, Singapore. DOI.org Link

Skills: Python, SQL, Java, Javascript, HTML/CSS, React, Django, PostgreSQL, Docker, Linux, Git, PyTorch, AWS, Azure, GCP, Firebase