JAY JHAVERI

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EDUCATION

Masters of Computer Science **Sept 2022 – Dec 2023 (Expected)**
University of California, San Diego (UCSD) CGPA: 3.95/ 4
Relevant Courses: Advanced Computer Vision, Deep Gen Modelling, Deep Learning, Scalable Data/ML Systems

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, Artificial Intelligence, Database Management, Natural Language Processing

INTERNSHIP EXPERIENCE

Full Stack Developer, Stealth Startup **Feb 2023 – Present**
- Integrating Python-based DL architecture to a user-friendly Web Application utilizing AWS and React JS.
- Secured $100K in funding in AWS credits from Adobe.

Full Stack Development Intern, Makos Infotech **June 2021 – July 2021**
- Developed Server-side rendering for their main website (Jobaskit.com) utilizing JQuery, PHP, and MySQL, which targets automating the On-campus placement process for various colleges.
- Managed existing and created relational databases using MySQL Workbench and deployed them on AWS.
- Co-pitched the online job placement portal, Jobaskit, to 3 University professors alongside the founder.
- Mentored 2 intern recruits working on the digitalization of the teaching process.

Data Analyst Intern, Leadingindia.ai **May 2020 – June 2020**
- Worked in a team of four to build a Vaccine Prediction model on the H1N1 and seasonal flu vaccines to accurately predict the trends of the public acceptance rate (41%) of the Covid-19 vaccine.
- Research Paper was published in Springer & I wrote a Blog showcasing the correlation between the two pandemics.
- Secured first position for the mentioned research project amongst 85 peers intercollege.

PROJECTS

GrooveGenie: A copyright-free music generator **March 2023 – Present**
- ✓ Created an open source music generation model, utilizing Facebook's EnCodec Transformer model to compress audio wav files to an embedding that can be understood by the model.
- ✓ Training a conditioned GAN network that generates music based on user-provided genre inputs embedded using the BERT model, with a goal of creating only copyright and royalty-free music, being trained on the FMA dataset.
- ✓ Trying out different, more efficient Diffusion/Transformer architecture to generate audio.

Game Genre and Recommendation Classification using Steam Reviews **Nov 2022 – Dec 2022**
- ✓ Designed data pipelines to preprocess and apply machine learning techniques to classify game genres and also personalize game recommendations using the user's reviews and hours played.
- ✓ Out of N-gram, Multinomial NB, and Linear SVC, RF with Balanced data & TF-IDF gave the highest accuracy of 90.53%.

Semantic Segmentation using Transfer-Learning and U-Net **Jan 2023 – Feb 2023**
- ✓ Implemented pixel-level segmentation using a pretrained and Resnet and U-Net architecture including a weighted loss on the PASCAL VOC-2007 dataset. Evaluated using pixel accuracy and intersection over union (IoU) metrics.
- ✓ Achieved a pixel accuracy of 74.4% and an IoU of 15% by utilizing transfer learning with a modified ResNet18 model.

VisionNumpy: Computer Vision Applications **Sept 2022 – Dec 2022**
- ✓ Performed partially and completely bounded camera rectification with epipolar geometry used in 3D reconstruction.
- ✓ Implemented SLP, MLP, and CNN using Pytorch to perform classification on the MNIST dataset.
- ✓ Designed an image captioning deep learning algorithm using a CNN-LSTM architecture using the COCO dataset.
- ✓ Re-Implemented U-Net to perform semantic segmentation and compared it with transfer learning on ResNet16.

Divya-Drishti: An Independent Aid for the Visually Impaired **Aug 2020 – May 2021**
- ✓ Created a Voice-activated standalone AIOT android application using Raspberry Pi4 to help Visually Impaired People (VIPs) accurately and efficiently detect Indian Currency notes, colors, and everyday objects.
- ✓ Funded by the Mumbai University Minor Research Grant Program.
- ✓ Received feedback, on the android-Java app developed, by National Association for the Blind (NAB)'s members.
- ✓ Achieved a *400%* net cost reduction compared to products made by OrCam.
- ✓ Published a research paper highlighting the needs of VIPs.

RESEARCH PUBLICATIONS

Inampudi S., **Jhaveri J.** et al., (2021) **Machine Learning Based Prediction of H1N1 and Seasonal Flu Vaccination**. In: Garg D., Wong K., Sarangapani J., Gupta S.K. (eds) Advanced Computing. IACC 2020. Communications in Computer and Information Science, vol 1367. Springer, Singapore. (https://doi.org/10.1007/978-981-16-0401-0_11)

Technical Skills: Python, PyTorch, SQL, SKlearn, OpenCV2, Computer Vision, AI/ML, C, AWS, Google Cloud, Firebase