**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, Computer Graphics, 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](https://doi.org/10.1007/978-981-16-0401-0_11) was published in Springer & I wrote a [Blog](https://medium.com/@jjhaveri1906/pandemics-a-harsh-reality-7c05254e907b) 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.

[**Self-Driving Car: Reinforcement Learning**](https://github.com/JayJhaveri1906/QLearning-F1-Car-Autonomous-Driving) **Feb 2023 – March 2023**

* Built a self-driving car using QLearning and Deep Q-Network on the PyGame GUI.

[**Semantic Segmentation using Transfer-Learning and U-Net**](https://github.com/AGhafaryy/Deep-Learning-Pattern-Recognition-/tree/main/PA3/PA3) **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**](https://github.com/JayJhaveri1906/Computer-Vision---1) **Sept 2022 – Dec 2022**

* Implemented edge detection and Shi-Tomasi corner detection from scratch with NMS and Hysteresis thresholding.
* Bettered SIFT feature matching using the fundamental matrix, homogeneous geometry combined with RANSAC.
* 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**](https://github.com/JayJhaveri1906/Divya-Drishti) **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](https://dx.doi.org/10.2139/ssrn.3867707) 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, TensorFlow, OpenCV2, Computer Vision, AI/ML, C, AWS, Google Cloud, Firebase