13 April 2023

Dear Hiring Manager, Fyusion,

I am very excited to apply for the Computer Vision internship at Fyusion! I firmly believe that the next stage in human civilization is the seamless integration of AR into the real world. Reading about Fyusion and what it stands for, I felt it is the right place to transfer my academic Computer Vision skills into industry-level. Further, after scanning the job description, I realized the immense overlap between my skills and knowledge and what you are looking for in a potential intern.

To elaborate, I am a first-year master's student at UCSD majoring in Computer science. I have had almost one year of Computer Vision work in coursework, projects, and hackathons. Apart from my endavours in Pixel Wise Semantic Segmentation using U-Net architecture, the most fun I have had is while learning about homogeneous coordinates and how we can “Reconstruct Rome in a day”. Currently, as part of my Advanced CV course, I am learning about the state of the art models used for Face Recognition and Human Pose estimation.

Further, during my undergrad, the achievement I am most proud of is my project Divya Drishti aimed at helping Visually Impaired People (VIPs) with their daily mundane tasks, making them independent even in rural areas, wherein I led a team of 4 to create a totally independent Raspberry Pi based IOT device, which can be connected to by a free android application. The easy-to-use UI of the application allowed VIPs to give voice commands to the Raspberry, based on which it would use the smartphone's camera to perform various tasks like currency detection and totaling, object detection, text reading & summarization, color detection, etc., depending on the command. After some back and forth with the National Association of Blind, India, this project enabled me to utilize CV to its maximum potential. We achieved a 400% cost reduction compared to the publicly commercialized alternative (OrCam).

Additionally, I was also part of a team of 6, wherein we designed a cloud-based application that would automate the existing parking system by auto-detecting number plates on Cars using existing CCTV Cameras utilizing a combination of YoloV4 object detection and Tesseract OCR on detected bounding box. Further, as part of my coursework in Computer Vision under Professor Ben Ochoa, I learned the fundamentals of Computer Vision principles that I have already been using via APIs and library calls and built famous techniques such as edge detection, epipolar rectification using corner detection, etc. I further used this knowledge in my semantic segmentation project, wherein I trained a Deep Learning model to perform Image captioning using a Pretrained resnet50 combined with an LSTM architecture!

I am confident that my skills, experience and passion for CV make me a strong candidate to be at Fyusion, and I am eager to grow and learn from the Best-in-class teams.

Thank you for your time and consideration. I would appreciate the chance to discuss further my qualifications and how I can contribute to something that furthers the human race! Please feel free to contact me at your convenience by email (jjhaveri@ucsd.edu) or by telephone (+1 858 214 9192).

Sincerely,

Jay Jhaveri