Kartikey Porwal

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SUMMARY

- Software Engineer with 2.4 years of experience in the media and entertainment industry with a proven history of research and development focused on state of the art computer vision driven solutions.
- Experienced in python scripting; consuming, building and integrating REST APIs.
- Involved in containerizing and building deep learning libraries from source for hardware accelerations on CUDA enabled devices.
- Knowledge of capturing and generating live stream and Video on Demand (VoD).

PROFESSIONAL EXPERIENCE

Planetcast Media Services Limited (formerly Essel Shyam Communication Limited)   Noida, India
Planetcast is a leading media services provider in the Broadcasting industry

Software Engineer   July 2018 – Present

Project: AI powered automated cricket highlights from live match in real time

- Successfully developed and deployed an end-to-end deep learning driven computer vision pipeline to generate real time highlights from live cricket matches, which achieved overall 90% accuracy as measured in 50 matches of IPL 2020.
- Built a cricket and TV advertisement binary image classifier using **transfer learning** on a pretrained **Inceptionv3** model using **Tensorflow** to reduce computing power by inactivating other modules, which achieved 92% accuracy.
- Developed tesseract powered OCR pipeline for scoreboard based event detection within a second, later improved accuracy by 20% at the cost of around 5 seconds delay by incorporating deep learning based **text detection** and **text recognition**.
- Built an **action recognition** pipeline using **pose estimation** to recognize actions like bowling, umpire signals utilizing state of the art human keypoints detection methods; optimized latency to recognize bowler runner ups within 2 minutes after ball is thrown by using the latest object detector, **YOLOV5.**
- Trained a **face recognition** model comprising 120 players' data from 8 teams of IPL 2020 using **PyTorch** and achieved 82% in Top-1 accuracy and 85% in Top-5 accuracy. Images collected from Instagram, Google Images, Youtube using **web scraping** and other tools.
- Implemented a **flask** based web service to interact with UI.

Project: Media Asset Management (MAM)

- Integrated state of the art **object detection**, **video action recognition** and **celebrity recognition** pre-trained models along with Microsoft's video indexer API for efficient tagging of media content for better monetization capabilities.
- Implemented and integrated Twilio's **WhatsApp Business API** for sending notifications to the client.
- Facilitated efficient video quality check control by implementing a still frame detector using **FFMPEG** and **pandas**.
- Developed client based video upload restful service for Youtube using Youtube data API and flask.
- Created restful web services to aid content seeding on different **cloud storage** providers like google drive, dropbox.

Technical Skills

Programming Language: Python, Javascript, SQL
Libraries and Frameworks: OpenCV, Flask, Numpy, Pandas, Tensorflow, Pytorch, Selenium, Matplotlib, MySQL
Tools: FFMPEG, Docker, Tesseract, Jupyter notebook, Anaconda, VS Code
Version Control: GIT, SVN

EDUCATION

B.Tech in Computer Science and Engineering – 67%   August 2014 – June 2018
Mahatma Gandhi Mission's College of Engg. & Technology, Noida

Senior Secondary Education - 73%   July 2012 – May 2014