Prince Patel

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Experience

- **Clutterbot** — Bengaluru/Wellington
  Senior Machine Learning Engineer — *March 2025 - Present*
  - **Perception Pipeline**: Architectured and developed Gstreamer pipeline solution to deliver ROS2 topics for object detection and floor segmentation running on Jetson/Qualcomm on GPU/NPU stack with multi-threaded capabilities at **10** fps(highest) in the robot for multiple cameras.
- **Eagle Eye Networks** — Remote
  Senior Engineer — *Sept 2021 - March 2025*
  - **VideoSearch**: Architectured and dockerised machine learning pipeline solution with orchestration, monitoring, and health checkups handling **500K** production cameras with 0.1 fps for VideoSearch product on 10 clusters worldwide using K8s enabling clients in performing an efficient search over all surveillance video the same way you search the web and immediately find people, vehicles, or objects.
  - **CustomAI**: Led and Implemented a scaled-up custom model for each customer with a goal to provide personalized queries as an on-demand service. Implemented dynamic batching, preprocessing kernels, tensorrt models on different contexts, incremental DBSCAN, messaging pipeline using threads having throughput at 200 fps
  - **Edge Box**: Led and Implemented a gstreamer based pipeline on Deepstream and Dlstreamer framework for safety, face, gun detection usecases.
- **Uncanny Vision Solutions** — Bengaluru
  Machine Learning Engineer — *Jul 2017 - Sept 2021*
  - **Cattleya**: Implemented and supervised cloud-based ml solution using orchestration and dockers for a million cameras with 3000 fps to enable alerts on tampering, face alerts, and crowding.
  - **Daimler**: Implemented and trained ml model using Caffe for finding the head pose of a person inside a car for an automotive client running on custom chip hardware with 100 fps and 0.2 GFLOPS
  - **Fujitsu**: Researched and developed conversions of multiple models for Person detection, tracking, re-identification, pose estimation, and classification using TensorRT and OpenVINO on Jetson and Intel CPU hardware
  - **Covid POCs**: Implemented pose service for cloud-based ml solution for 20 cameras of a pharmaceutical client to check personnel for complying with social distancing norms
  - **RemotifAI**: Architectured cloud-based ml solution for 500 cameras of a call centre client to check personnel for complying with WFH norms during Covid

Personal Projects

- **Leepi**: Implemented a learning application for deaf and mute. The user learns the sign language by first observing the animation and performing it in front of camera for which the app gives real-time feedback by on-device processing of video stream. Google showcased the application to the world on **Google I/O 2020. App Link**
- **Tottalk**: Based on an offline device that aids toddlers in speech development by recognizing real-world objects and providing interactive pronunciation coaching on a Rubik Pi 3 with Edge Impulse. **Video Link**
- **NXEVOS**: Created computer vision applications for Parking Slot management **Challenge link**
- **Incode**: App for passenger safety in cabs **Challenge link**
- **Ekatra**: Data collection themed prototype using Google Cloud technologies **Challenge link**

Education

- **National Institute of Technology** — Raipur
  Bachelor of Technology in Information Technology; GPA: 8.72 — *Jul. 2010 – Jul. 2014*

PUBLICATIONS

- **Collaborative filtering with label consistent restricted boltzmann machine** — ICAPR
  Verma, Sagar and Patel, Prince and Majumdar, Angshul — *2017*

Programming Skills

- **Languages**:C++,Python,CUDA,Golang, OpenCV **Technologies**:Pytorch,Tensorflow,K8s,Tensorrt,OpenVino