TANISHA KHURANA

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SKILLS

Languages: Python, C/C++, MATLAB ,SQL, Git, Bash **Tools/Platforms:** Amazon Web Services, Arduino, Raspberry Pi
Frameworks - OpenCV, Tensorflow, Scikit-Learn, Numpy,Pytorch

EXPERIENCE

Research and Development Engineer, Intello Labs Pvt. Ltd **January 2020 - Present**

- Worked on the development of object detection models for Intello Sort, company's flagship product to sort defective commodities.
- Used Tensorflow Object Detection API for Mask RCNN and Faster RCNN with inception-V2 and ResNet50-101 as backbone.
- Led the end to end process from data collection to image preprocessing and feature engineering to deployment on GPU for faster inferencing.
- Achieved an accuracy of around 85-90% and successfully deployed to production at client location.
- Implemented image processing algorithms such as colour segmentation, PCA using Python and OpenCV so that the commodities get classified according to size and colour and stored results in a mySQL table.
- Developed object detection models for various other commodities such as cardamom, palm fruit, almond and achieved an accuracy above 98% for identification and around 80% for classification.
- Worked on object tracking for cardamom using centroid tracking algorithm.
- Deployed on edge devices such as NVIDIA Jetson NANO, Jetson Xavier and Tx2 after exporting to TFLite.
- Integrated the model using Intel OpenVINO toolkit and deployed on Intel's devcloud. Compared and quantified the accuracy and IOU percentage with the existing tensorflow model.
- Carried out real time streaming and inferencing on Raspberry Pi.
- Deployed a 51 fruits and vegetables commodity SSD model on Google Coral Board TPU and fine tuned the accuracy using data augmentation techniques.

IOT Engineer, Qiggle.ai **January 2019 – August 2019**

- Carried out the integration of packets from NTC thermistor and accelerometer to gateways via ESP WiFi module using TCP/IP Suite.
- Worked on the ingestion of data on Python using Socket and logging module for acknowledgement and configuration of sensor data packets.
- Engineered the storage of packets in AWS S3 through EC2 instances for deploying automated logs to the database through Python Flask.

Data Science Intern, Innefu Labs Pvt. Ltd **October 2018 – December 2018**

- Modelling of Convolutional neural networks model ResNet 50 and YOLOv3(You only look once) for facial recognition and video analytics as part of the AI Vision team.
- Collaborated on dataset manipulation, data cleaning and attribute classification for dataset provided by Delhi Police law enforcement for missing persons detection, intrusion detection, crowd management, security surveillance and achieved a TPR of more than 98%.

Electronics Engineer, GenElek Technologies Pvt. Ltd **August 2018- October 2018**

- Led the electronics team for actuation and simulation of lower limb exoskeletons using Arduino Uno and DC motors. Angle sensors and gyroscope were used to calculate the orientation and ECG sensor for relaying the signal.

EDUCATION

Bachelor of Technology in Electronics & Telecommunication Engineering
CGPA – 9.25/10 **July 2014 – July 2018**
Bharati Vidyapeeth (Deemed to be) University, College of Engineering, Pune
Major Project- Real time water quality measurement system using Arduino Uno and sensors like turbidity, pH and temperature. The values are sent in real time using a GSM module. Published in IJIEE.
Relevant courses - Digital Signal Processing,Microprocessors and MIcrocontrollers, Embedded systems, Digital Image Processing, Artificial Intelligence and Robotics, Data Structures and Algorithms
Certifications - Machine Learning, Deep Learning Specialization, Image and Video Processing, Data Science specialization by Coursera