Revathi Prasad

https://revathi-prasad.github.io

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EDUCATION

Mahindra École Centrale Hyderabad, India
Bachelor of Technology in Electrical & Electronics; GPA: 8.97/10.0 *Aug 2015 – June 2019*

EXPERIENCE

Elseware Remote
Model Designer *September 2021 - Present*

- **Modelling Climate Risk**: Model and Application development to evaluate climate risks on a corporate credit risk portfolio.

Mahindra Research Valley Chennai, India
Product Development Engineer *Aug 2019 - Feb 2022*

- **DiGiSENSE**: Developed and Optimized Tractor Usage Algorithm for Mobile Application using Big Query for DiGiSENSE CCU 3.0. Managed 50% of Backend Platform Support for DiGiSENSE CCU in UAT and Production and supported migration of micro-services Applications to Google Cloud Platform
- **Grape Harvester**: Developed and investigated the accuracy of YOLO model trained on field images from Nashik Vineyards. Also, investigated the performance of NVIDIA Jetson Nano versus NVIDIA Jetson AGX Xavier Developer Kit. (Received a **SPOT award** for focused contribution towards the project)
- **Autonomous Cotton Weeder**: Developed a CNN model for Cotton vs Weed Classification with a 95% accuracy on real-time data. Explored Intel D435 Camera Calibration and Actuation techniques through the master Embedded PC
- **Smart Sprayer**: Trained R-CNN, YOLO models using limited dataset with classes like Garbage Bins, Door Knobs, etc. Explored Camera Positions and Calibrations for the autonomous UGV driven sprayer.
- **Potato Roguing Robot**: Developed a CNN model for healthy vs diseased leaves Classification with a 70% accuracy on real-time data. Explored data augmentation, Intel D435 Camera Calibration and Actuation techniques through the master Embedded PC. (Received 2 **SPOT awards** for focused contribution towards the project)

RESEARCH PROJECTS & INTERNSHIPS

- **Multi-Application Edge Computing**: Explored and analyzed the implementation of the Application Differentiator header for the Edge computing framework to enable multiple applications running in parallel, ensuring maximum utilisation of the gateway.Worked in a two-person team to deploy Azure Stream Analytics as an IoT Edge module to implement test modules such as calculation of the average temperature over a rolling 30-second window and analysed the network overhead of the novel Application Differentiator Layer
- **Object Detection using Semantic Segmentation**: Explored the use of Semantic Segmentation and Thresholding to detect aerial images of a football game ac-cording to pixel data and partitions.Preprocessed the dataset using ROI labelling of data through the Image Labeler app, and creating and partitioning datastores. Developed a suitable Semantic Segmentation Network and explored position estimation of the object on the field through circular detection and camera calibration methods in a three-member team.
- **Aerial Image Orientation, RCI-DRDO**: Developed a deep learning technique to calculate Real-Time Identification of Target Elevation using limited labelled training data. Explored data augmentation techniques to populate database to 100,000 images in the train and test dataset in a three-member project. Developed a CNN model to classify the test dataset into 10 classes with 80% accuracy.

PAPERS/PUBLICATIONS

- **Autonomous Weeder for Cotton Crop**: **Revathi Prasad***, Ayushmoy Roy, Aditya Rana, Divyang Talpada, Jagmeet Singh, Jayalakshmi Suren-dran, Saravanan Natarajan, Aadiv Shah and Hari Nair. **Oral presentation at SIAT 2021**

TECHNICAL SKILLS

- **Languages & Tools**: Python, Jupyter Notebook, MATLAB, Prodigy, SQL, Postman, DBeaver

- **Libraries and Frameworks**: OpenCV, Keras, Tensorflow, Matplotlib, Sklearn, Pandas, Numpy, Scipy, Rasterio, GCP