Revathi Prasad
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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 - Dec 2021*
  - **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 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.
  - **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**: Designed the internal survey and crowd sourcing platfowm which allowed for creating various tasks for crowd sourding or embedding surveys across the Coursera platform.
  - **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

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, Java, C++, SQL, Git, Eclipse, Postman, DBeaver
- **Libraries and Frameworks**: OpenCV, Keras, Tensorflow, Matplotlib, Sklearn, Pandas, Numpy, Scipy, Rasterio, GCP