Siddhartha Nalla

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Experience

- **AI Engineer** *June 2023 - July 2024*
  Vegrow [🌐] Bangalore, India
  - Developed a fruit quality assessment model using transfiner model. Made the process of data collection modular by using iPhone lidar and intel realsense.
  - Upgraded the website UI to a dynamic dashboard UI to better understand the results and create a story
- **AI Engineer Intern** *Jan 2023 - June 2023*
  Vegrow [🌐] Bangalore, India
  - Trained and tested Transfiner based models to find dimensions on pomegranate using stereo camera (Zed 2i). Implemented Lens Distortion Correction methods using Matlab 3D Plotting to enhance image quality and increased accuracy from 60% to 84%.
  - Implemented statistical methods to remove outliers. Conducted Statistical analysis to further improve the product.

Education

- **Arizona State University** *August 2024*
  Master of Science in Data Science, Analytics and Engineering Tempe, AZ
- **Indian Institute of Technology Tirupati** *July 2019 - May 2023*
  Bachelor of Technology in Electrical Engineering Tirupati, India
  - Grade: 7.68

Projects

- **3D Reconstruction using Fringe Projection** *July 2022 - May 2023*
  IIT Tirupati - Final Year Project [🐙]
  - Objective: To reconstruct a 3D model of an object by projection of fringe patterns using Deep Learning methods.
  - Fringe Projections are projected onto a 3D object and an image is taken from camera. This image is then used to find the depth map of the 3D object. An extensive testing and constant training of Deep Learning models such as UNet, PSMNet and HRNet were proved useful and calibration is done to get the final 3D Profiling.
- **Fruit Dimension Estimation** *August 2022*
  Vegrow
  - Objective: To estimate and analyze the size and weight estimates of fruits from an image of tree.
  - A project in collaboration with an Agritech company, Vegrow where a camera is used to take images of trees from a farm containing fruits and the sizes of fruits are estimated using Deep Learning techniques and statistics and calibration to get the final result in mm. Numerous field tests were conducted to make the most generic and robust model.
- **Fruit Quality Estimation** *June 2023*
  Vegrow
  - Objective: To estimate and classify the defects of fruits from an image of array of fruits lying on the ground.
  - This is a project I took up as an AI Engineer Intern. We use a different version of Transfiner model to detect the fruits lying on the ground and send the fruit region to another Transfiner model to find defects.
- **Human Pose Estimation and Tracking** *June 2022*
  IIT Tirupati
  - Objective: To estimate a human skeleton from an image of a person.
  - A video of people is given as input. The Openpose model estimates Part Affinity Fields and Confidence Maps which are used to estimate the Human Pose / Human skeleton.

Skills

- **Programming Languages:** Python, R, Javascript, Ruby, C, SQL
- **Software:** Anaconda, MATLAB, Visual Studio