

Vikas Desai

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SUMMARY

A results-driven data science expert with 3 years of experience in ML Engineering and 3 years in Computer Vision academic research. Seeking a dynamic team to tackle complex machine learning and software engineering challenges.

EXPERIENCE

Qualcomm

Machine Learning Engineer

Hyderabad, India

Jul 2020 - Current

- **Neural Engine:** Currently responsible for the support and maintenance of advanced deep learning models on Snapdragon Neural Processing Engine for Android.
- **Evaluation Suite:** Tasked with the development and upkeep of a comprehensive set of evaluation metrics used to assess the performance of computer vision and NLP models.
- **Continuous Monitoring:** Enhancing a continuous monitoring system to evaluate the stability of Snapdragon Neural Engine on various Qualcomm Chipset backends, including CPU, GPU, and DSP.

Indian Institute of Technology, Hyderabad

Graduate Research Assistant

Hyderabad, India

Aug 2017 - Jun 2020

- **Deep Learning Research:** I worked under the guidance of Dr. Vineeth N Balasubramanian in developing active learning techniques for object detection and semantic segmentation tasks, resulting in 12 publications
- **Collaborations:** Collaborated with the University of Tokyo on developing cost-effective object detection models for precision agriculture of paddy and maize crops.
- **Internships:** Successfully completed summer internships at both the University of Tokyo and AIST Tokyo, contributing to cutting-edge vision research related to urban planning

SKILLS

Frameworks: PyTorch, Keras, Flask

Libraries: Scikit-learn, Numpy, OpenCV, Matplotlib, Pandas

Languages: Python, C++, Java, Bash Scripting

Web Technologies: HTML, CSS, JavaScript

Developer Tools: Git, L^AT_EX, Jenkins, Jira, Confluence

ML Expertise: CNNs, Active Learning, Semantic Segmentation, Object Detection, Transformers

EDUCATION

Indian Institute of Technology Hyderabad

Masters in Computer Science; CGPA: 9.52

Hyderabad, India

Aug 2017 - Jun 2020

Sreenidhi Institute of Science and Technology

Bachelor of Electronics and Communication Engineering; Percentage: 82.6%

Hyderabad, India

Jun 2013 - Jun 2017

ACADEMIC PROJECTS

- **Adaptive Supervision for Object Detection:** Developed a novel adaptive supervision framework for active learning in object detection. A combination of weak and strong supervision is used to obtain 30% savings in annotation cost to attain a target mean average precision performance level. *In collaboration with University of Tokyo*
- **Edge Computing Toolkit for Real-time Plant Phenotyping:** Created EasyRFP, a software toolkit which can be interfaced with any commercial GPU enabled micro computer (such as NVIDIA Jetson) and a digital camera. It automatically performs deep learning inference on field images and periodically emails the results.
- **Rice Heading Stage Estimation using Deep Learning:** Proposed a simple pipeline to detect regions containing flowering panicles from ground level RGB images of paddy rice. Used the flowering panicle region counts to estimate the heading date of the crop with a mean absolute error of less than 1 day. *In collaboration with University of Tokyo*

PUBLICATIONS

1. **S. V. Desai**, V. Balasubramanian, Towards Fine-Grained Sampling for Active Learning in Object Detection, Visual Learning with Limited Labels, **CVPR 2020 Workshops**, Seattle, USA.
2. **S. V. Desai**, Akshay L. Chandra, V. Balasubramanian, An Adaptive Supervision Framework for Active Learning in Object Detection, British Machine Vision Conference, **BMVC 2019**, Cardiff, UK.
3. Akshay L. Chandra, **S. V. Desai**, V. Balasubramanian, S. Ninomiya, W. Guo, Active learning with point supervision for cost-effective panicle detection in cereal crops. **Plant Methods** **16**, 34 (2020).
(to view the complete list of publications, visit my Google Scholar page)