Siddeshwar 'Sid' **Raghavan**

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EDUCATION

University of Wisconsin-Madison — Madison, Wisconsin
Master of Science (Research) in Electrical Engineering — Sep 2019 - May 2021
GPA 3.68/ 4.00

PSG College Of Technology — Coimbatore, India
Bachelor of Engineering in Electronics and Communications — Jul 2014 - May 2018
GPA 8.23/ 10.00

RESEARCH AND INDUSTRIAL EXPERIENCE

Independent Research Student - *University of Wisconsin-Madison (advised by Prof. Yin Li)* — Madison, Wisconsin, Dec 2019 - May 2021
1. Designed and developed a pipeline for ground truth image generation in GUI-less Blender using Python for Non-Line of Sight Imaging system
2. Developed a computer vision system for regressing and reconstructing intensity images from NLOS measurements using 2D/ 3D ResNet deep learning models with a PSNR of 22.7 dB.
3. Captured the largest real-time NLOS dataset with human subjects and physical objects.
4. Developed and tested a Computer Vision and Deep Learning-based 2D NLOS Human Pose Estimation using a hybrid CNN and LSTM network with an MLP head to predict and reconstruct the human poses from the sequence.
Python, PyTorch, Blender

Graduate Teaching Assistant - *University of Wisconsin-Madison* — Madison, Wisconsin, Jan 2021 - May 2021
Graduate Teaching Assistant for ECE 352 - Digital Fundamental Systems

Engineering Intern - *Adori Labs* — Bangalore, India, Sept 2018 - May 2019
1. Developed a Voice Assistant for the in-house built Adori Player
2. Built and released Google Home Actions and Amazon Alexa Skills for the Adori platform.
Swift

Research Intern - *IIT, Bombay (advised by Prof. Rajbabu Velmurugan)* — Mumbai, India, Jun 2017 - Jul 2017
Developed a computer vision system for VSLAM. Identified markers and distance of the markers from the video captured by a single camera rather than the conventional multi-camera approach using Python and OpenCV.
Python, OpenCV

Research Intern - *IIT, Madras (advised by Prof. Ashok Jhunjhunwala)* — Chennai, India, Jun 2016 - Jul 2016
Designed and built a State Of Health tester to dynamically measure the state of the battery.
C++

PUBLICATIONS/ PATENTS/ PROJECTS

Towards Non-Line-Of-Sight-Photography: High resolution 2D reconstruction with a deep neural network
Paper submitted and under review

SpaceNet 7 - Challenge involves segmenting and tracking tiny, dense building footprints over time from satellite images. Implemented VGG-16, ResNet-50, DenseNet-121, and YoloV4 with a UNET decoder for semantic segmentation. Finished within the top 7 percentile of participants.

SpaceNet 6 - Challenge involves segmenting building footprints from SAR (Synthetic Aperture Radar) images using Deep Learning and Computer Vision models. Finished within the top 50 percentile of participants.

Patent published - Human Interface System For Playing Virtual Percussion Instruments (Ref: Patent application No: 201841021574 dated June 8, 2018 - Published at the Indian Patent Office) - A virtual reality prototype developed to learn to play percussion instruments.

SKILLS

- **Languages**: Python, SQL, Java, Matlab, LaTeX, C++, Linux
- **Developer Tools**: Jupyter Notebooks, Git, Google Cloud Platform, VS Code, Amazon AWS, Blender, Unity 3D, Docker
- **Library**: PyTorch, Pandas, NumPy, OpenCV, Tensorboard
- **Art Studio**: Atelierofsid