Sreenivas Venkobarao

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Education

- **University of Massachusetts, Amherst** — Amherst, MA
  Master of Science in Computer Science — *Sep 2017 – May 2019*
  - **Courses**: Computer Vision; Neural Networks; Artificial Intelligence; Database Design & Implementation; Optimization Algorithms; ***GPA:*** *3.73 / 4.0*
- **SSN College of Engineering, Anna University** — Chennai, India
  Bachelor of Engineering in Electronics and Communication Engineering — *Jul. 2013 – Apr. 2017*
  - **Courses**: Advanced Digital Signal Processing, Digital Image Processing, Computer Architecture

Skills

- **Languages:** Python, MATLAB • **Software:** Git, Heroku, Blender • **Hardware:** Arduino
- **Frameworks:** PyTorch, Tensorflow, OpenCV, Open3D, Scikit-Learn, Keras

Work Experience

- **Xerox Palo Alto Research Center (Xerox PARC)** — Palo Alto, CA
  Interactions and Analytics Lab Intern — *June 2018 - Sep 2018*
  - Worked under Dr. Matthew Shreve, on building fast annotation tools for 3D objects, and reconstructing 3D models of novel objects, using Augmented Reality. **Filed a joint patent application based on my work.**

Research Experience

- **Self Supervised Representation Learning using Video Interpolation** — UMass Amherst
  Masters Project — *Sep 2018 - May 2019*
  - Working under Professor Erik Learned-Miller and Prof. Liangliang Cao on self supervised learning of video representations using video interpolation as an auxiliary task. **Re-implemented NVIDIA's state of the art video interpolation deep learning model** from scratch, and **added improvements to the model** using LSTM and GRU layers.
- **Camera Rotation Estimation from Optical Flow** — Amherst, MA
  Computer Vision Lab, UMass Amherst — *Jan 2018 - May 2018*
  - Worked under Professor Erik Learned-Miller on estimating camera rotation from a video sequence using optical flow of tracked points across video frames. Implemented a novel automatic image registration algorithm from scratch, and used it to generate panoramas from the video.
- **Depth Estimation from a Single Image**
  Course Project, UMass Amherst — *Oct 2017 - Dec 2017*
  - Investigated supervised and self-supervised algorithms to estimate the depth of a 3D scene from a single image. Devised novel loss-functions, and evaluated performance of different CNN architectures on various datasets.

Projects

- **RiskyClickerBot**: Python based content moderation system for Reddit, to detect explicit images and videos.
- **Rubik's Cube Solver**: Python program to generate optimal solutions given photos of the Rubik's cube.
- **ArXiv Abstract Bot**: Python bot to extract abstracts from ArXiv submissions for the r/machinelearning sub-forum on Reddit.