Cell: 562-735-9065; **Email:** sameermarulkar@outlook.com
webpage: sameermarulkar.github.io; **Linkedin**: linkedin.com/in/sameermarulkar

Sameer Marulkar, Software Developer

- ➔ 3 years of progressive work experience designing software algorithms targeted at analyzing, processing high dimensional data (Image/Video streams).
- ➔ Worked in the space of scene reconstruction, video tracking, video generation, inpainting etc. - blending deep machine learning algorithms.
- ➔ Decent understanding of transmission and reproduction of digital media i.e. CMS → CDNs → video codec optimization → video players(client) and interlinked authentication systems.

Technical skills

- Programming: Python, BASH, C++.
- Libraries: TensorFlow, OpenCV, OpenAI Gym, OpenGL
- Machine learning: **StackGANs**, WGANs, **Convolutional LSTM**, RNN, Auto-encoders
- Computer vision: **SLAM**, Depth sensing, **Sensor Fusion**, 3D reconstruction, Inpainting
- Reinforcement Learning: TD Lambda, RBF, HMM, Q-learning
- Amazon web services: S3, EC2, Cloudfront, Elastic load balancing

Professional Work Experience

AT&T, Product Development Engineer 4/16 - Present
Project II: FrontEnd team (Computer Vision/Generative Networks)

- D-Dash; Deep Q learning based video streaming
- Video component recognition
- StackGAN based Boot up animation splash screen transitions

Project I: Multimedia Team

- Team sub-lead for proprietary Android TV box bootloader stack design, ExoPlayer and MediaPlayer integration to the Android software stack for Live Streaming and VoD solutions (now DIRECTVNOW).
  - Exposure to bootloader OTT secure upgrade process involving secure AWS CDN bucket calls, DNS remapping for system level testing, continuous build integration etc.
  - Experimented with Amazon cloudFront (custom SSL), application load balancers.
  - Worked in codelab to experiment with ExoPlayer integration -to understand dynamic adaptive streaming over HTTP (DASH).
- Involved in designing test plans for conforming (Bit-exact) HEVC decoding, HDCP 2.2 and 4K60 AvSync (LipSync) specifications for middleware set top boxes (STBs).

Theta Engineering, Embedded Software Developer 5/15 - 8/15

- Designing end to end embedded solutions catering to the aerospace industry in southern California.
- openGL, GLEW, freeglut based drone simulator design in Visual Studio 2012 - C.

MIT Media Lab, Algorithm Engineer 1/14 - 8/14

- Design Innovation Intern. Part of a team developing gesture recognition/reconstruction algorithms:
- Developed application logic of 3D scanning and geometry processing algorithms using unity, p5.js.
- Implemented GPU pipeline for 3D scanning similar to KinectFusion in openCV:
  depth map registration ---> depth map fusion to sparse equivalent --> isosurface extraction (marching cubes algorithm)

- Implemented linear neural network based action classification algorithm in p5.js (vanilla 3-layer ANNs in JavaScript).

EDUCATION

California State University Long Beach (3.6/4.0) 2016
M.S. *Electrical Engineering*

University of Pune 2013
B.E. *Electronics and Telecommunications Engineering*