**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*