

## Sumedh Pendurkar

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### EDUCATION

<b>Texas A&amp;M University (TAMU), College Station</b>	Aug 2019 - May 2024
Doctor of Philosophy, Computer Science (Ph.D.), CGPA: 4 / 4	
Current Courses: Machine Learning, Artificial Intelligence, Analysis of Algorithms	
<b>College of Engineering, Pune (COEP)</b>	July 2015 - May 2019
Bachelor of Technology, Computer Engineering, CGPA: 9.12 / 10	

### EXPERIENCE

<b>Summer Technology Analyst, Goldman Sachs</b>	May 2018 - July 2018
<ul style="list-style-type: none"><li>Worked on UI part of a change management (for business units) tool used using Angular 6</li><li>Developed RESTful web services in Java for the change management tool, currently used in production</li></ul>	
<b>Research Intern, Indian Institute of Technology, Roorkee under Dr. Biplab Banerjee</b>	May 2017 - July 2017
<ul style="list-style-type: none"><li>Implemented non-uniform interpolation based multi-image super-resolution model (<a href="#">code</a>), designed deconv-net based model for single image super-resolution on optical satellite images, achieved 0.55 dB PSNR over SOTA</li><li>Designed a joint-encoder-decoder-classifier network and analyzed its performance</li></ul>	

### PUBLICATIONS

**Pendurkar S., Banerjee B., Saha S., Bovolo F. (2019)** Single Image Super-Resolution for Optical Satellite Scenes Using Deep Deconvolutional Network, Image Analysis and Processing – ICIAP 2019 ([view](#))

Saha S., Sudhakaran S., Banerjee B., **Pendurkar S.** (2019) Semantic Guided Deep Unsupervised Image Segmentation, Image Analysis and Processing – ICIAP 2019 ([view](#))

### PROJECTS

<b>Deep Reinforcement Learning for autonomous driving:</b>	Sept 2019 - Present
<ul style="list-style-type: none"><li>Working on behavioral cloning to drive a car on Carla simulator so that the vehicle steers and presses the gas on its own and stays on track, under the guidance of Dr. Guni Sharon (Python, Keras)</li></ul>	
<b>Open-Ended Visual Question Answering System:</b>	April 2018 - May 2019
<ul style="list-style-type: none"><li>Designed an attention based multi-modal fusion model which gives a free flowing answer to a question based on video as it attends to both, question words and video while outputting every single word of answer</li><li>Developed a software for the same which achieves accuracy of ~ 21% (Python, PyTorch)</li></ul>	
<b>LightRegularizedGANs for unpaired day to night and night to day translation (<a href="#">code</a>):</b>	Sept 2019 – Dec 2019
<ul style="list-style-type: none"><li>Worked on adding a loss penalty to control the light intensity of outputted images in cycleGAN architecture</li></ul>	
<b>Author of word-completion feature GNU-Nano text editor (<a href="#">patch</a>):</b>	July 2016 - Dec 2016
<ul style="list-style-type: none"><li>Added a word-completion feature which completes the current word based on the text present in the open file</li><li>This feature was incorporated in GNU-Nano, a open-source project (C)</li></ul>	
<b>Implementing a Shared Memory on two microcontrollers for CSAT-2:</b>	Feb 2016 - May 2016
<ul style="list-style-type: none"><li>Implemented a variation of Dekker's Algorithm on SD Card using two ARM7 Controllers and 2 hardware lines</li><li>This algorithm allowed the communications controllers on satellite to collect data and process on its own without waiting for the on-board controller, thus reducing the latency (C)</li></ul>	

### SKILLS

**Programming:** Proficient: Python, C; Learner: C++, BASH scripting, Javascript, Java

**Tools and Frameworks:** Git, Scons, Keras, Opencv, PyTorch, GTK, scipy, Angular, LATEX, scikit-learn

### ACHIEVEMENTS & EXTRA-CURRICULAR ACTIVITIES

Member of COEP's Satellite Initiative (CSAT) that launched "SWAYAM" in the space	March 2016
Deloitte Innovation Award, Ministry of Road and Railways, Smart India Hackathon ( <a href="#">code</a> )	March 2018
Published 'Keras Implementation of Siamese Networks' and 'Implementing Attention Models in PyTorch' as Intel Student Ambassador for AI	
Finished 58/4528 in the Deep Learning Challenge#1 hosted by Hackerearth ( <a href="#">code</a> )	Sept 2017
Finalist at Philips Hackathon on Data Science (top ~40 / 1980)	Nov 2018