Sumedh Pendurkar

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EDUCATION

Texas A&M University (TAMU), College Station Aug 2019 - May 2021
Master of Science, Computer Science (MS CS), GPA: 4 / 4
Relevant Courses: Reinforcement Learning, Computational Photography, Software Engineering, Machine Learning

College of Engineering, Pune (COEP) July 2015 - May 2019
Bachelor of Technology, Computer Engineering, GPA: 9.12 / 10
Relevant Courses: Data Science, Software Engineering, Operating Systems, Algorithms and Complexity

EXPERIENCE

Summer Technology Analyst, Goldman Sachs May 2018 - July 2018
- Worked on UI part of a service management tool used for managing the changes in business units using Angular 6
- Developed RESTful web services in Java

Research Intern, Indian Institute of Technology, Roorkee under Dr. Biplab Banerjee May 2017 - July 2017
- Implemented non-uniform interpolation based multi-image super-resolution model (view code), designed deconv-net based model for single image super-resolution on optical satellite images, achieved 0.55 dB PSNR over SOTA
- Designed a joint-encoder-decoder-classifier network and analyzed its performance

Student Ambassador for AI, Intel Corporation Nov 2017 - Present
- Speaker at the Intel AI meet-up on "Convergence of Big Data and Machine Learning", Pune, India
- Published 'Keras Implementation of Siamese Networks' and 'Implementing Attention Models in PyTorch'

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

Deep Reinforcement Learning for autonomous driving: Sept 2019 - Present
- Working on behavorial 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)

Open-Ended Visual Question Answering System: April 2018 - May 2019
- 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
- Developed a software for the same which achieves accuracy of ~ 21% (Python, PyTorch)

LightRegularizedGANs for unpaired day to night and night to day translation (view code)**:** Sept 2019 - Dec 2019
- Worked on adding a loss penalty to control the light intensity of outputted images in cycleGAN architecture

Author of word-completion feature GNU-Nano text editor (view patch)**:** July 2016 - Dec 2016
- Added a word-completion feature which completes the current word based on the text present in the open file
- This feature was incorporated in GNU-Nano, a open-source project (C)

Developed an algorithm for Shared Memory on two microcontrollers for CSAT-2: Feb 2016 - May 2016
- Implemented a variation of Dekker's Algorithm on SD Card using two ARM7 Controllers and 2 hardware lines
- Proposed 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)

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 (view code) March 2018
- Finished 58/4528 in the Deep Learning Challenge#1 hosted by Hackerearth (view code) Sept 2017
- Finalist at Philips Hackathon on Data Science (top ~40 / 1980) Nov 2018