Shashanka Venkataramanan

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[Personal Webpage]

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EDUCATION

Master of Science, Computer Science — *Aug 2018 - May 2020*
University of Central Florida, USA — CGPA : 3.8/4.0

Bachelor of Engineering, Electronics and Telecommunication — *July 2013 - May 2017*
University of Mumbai, India — CGPA : 8.13 /10.0

RESEARCH & INDUSTRIAL EXPERIENCE

Deep Learning Intern, Siemens Corporate Technology, USA — *May 2019 - August 2019*

- Proposed supervision on attention maps for anomaly detection and localization in unsupervised and weakly-supervised settings.

Junior Research Fellow, Indian Institute of Science, India — *June 2017 - June 2018*

- Developed re-ranking algorithms using dictionary learning to address low-resolution heterogeneous face recognition across variation in pose and illumination.

Research Intern, Robotics Research Lab, IIIT-Hyderabad, India — *Dec 2016 - Feb 2017*

- Developed detection algorithms for multi-robot SLAM on HUSKY UGV with April tags using ROS.

ACADEMIC EXPERIENCE

Graduate Research Assistant — *August 2019 - Present*
University of Central Florida — *Advisor: Dr. Abhijit Mahalanobis*

- Working on developing compressed CNNs such as binary CNNs for efficient object recognition.

Graduate Teaching Assistant — *January 2019 - May 2019*
Course: Machine Learning — *Instructor: Dr. Fei Liu*

- My responsibilities were to grade and set homework assignments, hold office hours to solve queries in homework assignments and proctor & grade exams.

PUBLICATIONS

- S. Venkataramanan, M. Tayyab, A. Mahalanobis, *Anonymous*, Neural Information Processing Systems (NeurIPS), 2020. [Under review]
- S. Venkataramanan, K-C. Peng, R.V. Singh, A. Mahalanobis, **Attention Guided Anomaly Localization in Images**, European Conference on Computer Vision (ECCV), 2020.
- B. McIntosh, S. Venkataramanan, A. Mahalanobis, **Target Detection in Cluttered Environments using Infrared Images**, International Conference on Image Processing (ICIP), 2020.
- S.P. Mudunuri*, S. Venkataramanan*, S. Biswas, **Dictionary Alignment with Re-ranking for Low Resolution NIR-VIS Face Recognition**, IEEE Transactions on Information Forensics and Security (TIFS), 2019. (* denotes equal contribution)
- S.P. Mudunuri, S. Venkataramanan, S. Biswas, **Improved Low resolution heterogeneous face recognition using re-ranking**, National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG), 2018.

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, HTML, CSS, Shell Scripting
Software & Tools	MATLAB, LaTeX, Caffe, TensorFlow, PyTorch, OpenCV, ROS.

NOTABLE PROJECTS

Sequence-to-sequence video object segmentation using self attention *Jan 2019 - April 2019*

- Developed an end-to-end deep learning framework involving self-attention using transformers for instance level object segmentation on the YouTube-VOS dataset.

Real world anomaly detection in surveillance videos *Sept 2018 - Dec 2018*

- Implemented an LSTM encoder-decoder framework using RGB and optical flow images to predict anomalies in real life surveillance videos.

Adversarial attacks on face recognition systems using generative models *May 2018 - Oct 2018*

- Developed a VAE-GAN framework that generates a unique perturbation causing adversarial attacks on face recognition models.

Shock extraction from schlieren images *Jan 2018 - March 2018*

- Developed an algorithm to extract shocks from schlieren images using median filters, active contours etc. during research on hypersonics and shockwaves.

NIR-VIS person re-identification using deep siamese network *Aug 2017 - April 2018*

- Developed a deep siamese network for person re-identification across NIR and RGB images with variations in pose, illumination and resolution.

ACADEMIC ACHIEVEMENTS

- Assisted my advisor Dr. Mahalanobis in successfully securing DARPA Young Faculty Award (YFA) research grant on " Minimum L1 norm specialist networks for learning via sparse active pathways" by conducting preliminary experiments to validate the proposed ideas.
- Final year undergraduate project on "Non-invasive heart-rate and blood glucose measuring device" featured in the regional newspaper - Maharashtra Times. [article]