

Saksham Suri

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Education

University of Maryland, College Park

Ph.D in Computer Science

Aug. 2019 – Present

4.0/4.0

Advisor : Prof. Abhinav Shrivastava

Indraprastha Institute of Information Technology, Delhi, India

B.Tech. in Computer Science and Engineering

Aug. 2015 – May 2019

9.89/10.0

Current Research

I am interested in solving problems using less supervision. To this end my current research focuses on sparsely annotated object detection where images have missing object annotations.

Publications

Towards Discovery and Attribution of Open-world GAN Generated Images

Saksham Suri*, Sharath Girish*, Saketh Rambhatla, Abhinav Shrivastava

International Conference on Computer Vision, 2021 (* Equal Contribution)

Learned Spatial Representations for Few-shot Talking-Head Synthesis

Moustafa Meshry, **Saksham Suri**, Larry S. Davis Abhinav Shrivastava

International Conference on Computer Vision, 2021

Improving Face Recognition Performance using TeCS² Dictionary

Saksham Suri, Anush Sankaran, Mayank Vatsa, Richa Singh

Pattern Recognition Letters (PRL) 2020

On matching faces with alterations due to plastic surgery and disguise

Saksham Suri, Anush Sankaran, Mayank Vatsa, Richa Singh

IEEE International Conference on Biometrics Theory, Applications and Systems (BTAS) 2018

An Interpretable Generative Model for Handwritten Digits Synthesis

Yao Zhu, **Saksham Suri**, Pranav Kulkarni, Yueru Chen, Jiali Duan, C. -C. Jay Kuo

International Conference on Image Processing (ICIP) 2019

Angel or Demon? Characterizing Variations Across Twitter Timeline of Technical Support Campaigners

S. Gupta, G. S. Bhatia, **Saksham Suri**, D. Kuchhal, P. Gupta, M. Ahamad, M. Gupta, P. Kumaraguru

The Journal of Web Science Vol.6 (2019)

Professional Experience

Applied Science Intern, AWS Textract

Mentor : Vijay Mahadevan, Ankan Bansal

May'21 – Aug'21
Layout Aware Semi-Supervised Pre-Training for Document Understanding

Proposed a semi-supervised approach for multimodal pre-training of transformers using document layout information. Showed improvement in multiple few-shot downstream tasks.

Research Assistant, University of Maryland

Mentor : Prof. Abhinav Shrivastava

May'20 – Present

Open World Attribution

Working on discovering image sources in an open world setup followed by digging deeper into networks to infer what concepts and symbols are learnt. Parallely exploring training techniques in the case of noisy or sparse labels.

Research Assistant, University of Maryland

Mentor : Prof. Rama Chellappa

Aug'19 – May'20

Activity Recognition

Used domain adaptation to utilize synthetic data in order to boost performance. Additionally, worked on improving activity proposals using better object detection and clustering strategies.

IBM Research, Bengaluru, India

Mentor : Srikanth Tamilselvam, Senthil Mani

May'19 – Jul'19

Image Synthesis

Worked on incorporating common sense from a knowledge base for fashion based image synthesis using GANs.

University of Southern California, Los Angeles

Mentors : Prof. C. -C. Jay Kuo

May'18 – Jul'18

Interpretable Image Synthesis

Worked on non Deep Learning based interpretable generative model for handwritten digit image synthesis.

IIIT Delhi, India

Mentors: Prof. Mayank Vatsa and Prof. Richa Singh

Developed an easy to use standalone system for face recognition to be deployed and used in practical settings.

May'17 – Aug'17

Face Recognition

Achievements

- **Dean's Fellowship 2019:** Awarded at the start of Ph.D at UMD.
- **AICTE-INAE Travel grant:** Awarded the grant to present my paper at BTAS 2018 in California, USA.
- **IUSSTF-Viterbi Scholarship 2018:** Funded by the Indo-US Science and Technology Forum to undertake a research internship at the Viterbi School of Engineering, University of Southern California
- **IIIT-Delhi Dean's Award for Research and Innovation 2018:** Awarded for my research on face recognition.
- **Dean's List Award 2016,'17,'18:** For excellent academic performance.
- **IIT-JEE Mains:** Secured an All India Rank of 2106 out of 1.5 million candidates.

Other Selected Projects

Latent Space Data Augmentations for Better Generalization

Mentor : Prof. Soheil Feizi

Aug'20 – Dec'20

University of Maryland

An Investigation of the Role of Learning Rate in Deep Learning

Mentor : Prof. Furong Huang

Aug'20 – Dec'20

University of Maryland

Detecting Obscene and Retouched Images

Mentor : Prof. Mayank Vatsa

Jan'19 – May'19

IIIT Delhi

Human Parsing using Cascaded Segmentation

Mentor : Prof. Rajiv Ratn Shah

Jan'19 – May'19

IIIT Delhi

Model Agnostic Adversarial Learning

Mentor : Prof. Richa Singh

Aug'18 – Dec'18

IIIT Delhi

Adversarial Learning on Medical Image Data

Mentor : Prof. Richa Singh

Jan'18 – May'18

IIIT Delhi

Deep Reinforcement Learning on Atari

Mentor : Prof. Mayank Vatsa

Aug'17 – Dec'17

IIIT Delhi

Wake Component Detection for Heading and Velocity Estimation of Ships using SAR Images

Mentor : Prof. A. V. Subramanyam

Aug'17 – Dec'17

IIIT Delhi

Teaching experience

Teaching Assistant

Statistical Machine Learning

Jan'19 – May'19

IIIT Delhi

Teaching Assistant

Systems Management

Aug'17 – Dec'17

IIIT Delhi

Voluntary Service

Reviewed for ICCV'21, CVPR'21, CVPR'20, BMVC'20, TBIOM'19

Relevant Coursework

Computer Vision and Machine Learning: Algorithms in Machine Learning : Guarantees and Analyses¹, Deep Learning¹, Advanced Techniques in Visual Learning and Recognition¹, Statistical Pattern Recognition¹, Digital Image Processing², Artificial Intelligence², Statistical Machine Learning², Advanced Machine Learning², Computer Vision², Multimedia Computing and Applications²

Mathematics: Advanced Numerical Optimization¹, Linear Algebra², Probability and Statistics², Discrete Mathematics², Multivariate Calculus², Theory of Computation², Linear Optimization²

Relevant Skills

Programming Languages: Python, MATLAB, C++

Libraries & Tools: PyTorch, TensorFlow, OpenCV

¹University of Maryland, College Park

²IIIT-Delhi