Salman Siddique Khan

Contact Information

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Research Interest

My field of research is Computational Imaging which incorporates designing new imaging systems and computational techniques that extend the capabilities of conventional cameras. In particular, I am interested in developing algorithms based on Optics, Signal Processing and Machine Learning that make these computational imaging systems work.

Education

2018-Present	Ph.D.,**Indian Institute of Technology Madras**, India Department: Electrical Engineering Advisor: Prof. Kaushik Mitra
2014-2018	BTech(Honors), **National Institute of Technology Rourkela**, India Department: Electronics and Instrumentation Engineering

Research Experience

May-Nov 2019	Research Associate at Rice University, Houston, Texas, USA Worked on design of privacy preserving cameras using learning based techniques
Summer 2017	Summer Intern at Indian Institute of Space Science and Technology, Trivandrum, India Developed active learning based image classification and object detection algorithms using features extracted from pretrained CNN models.
Summer 2016	Summer Intern at Indian Statistical Institute, Kolkata, India Successfully completed a research project titled 'Gland Segmentation in Histopathology Images Using Random Forest Guided Boundary Construction', as a part of "*3rd Summer School on Computer Vision, Graphics and Image Processing*" organised by ISI Kolkata and Indian Unit for Pattern Recognition and Artificial Intelligence.

Computational Skills

Softwares:	NI Multisim, NI LabView.
Libraries:	PyTorch, TensorFlow
Languages:	Python, MATLAB, C, C++, Verilog HDL

Projects

July 2018-Present	**Image Reconstruction and Face Recognition using Flatcam** Flatcam is a thin lensless coded aperture camera. I am currently working on obtaining high resolution images through computational data driven approaches from the averaged out illumination captured by the camera. Part of the work has also been to focus on application specific algorithms like those for direct facial recognition from Flatcam images.
July 2017-April 2018	**Anomalous Event Detection In Surveillance Videos** I worked on this project for my Undergraduate Thesis under the guidance of Prof. Umesh Chandra Pati.
May 2017-July 2017	**Active Learning Based Image Classification and Object Detection Using Deep Convolutional Features** This project was done as a part of my Summer Internship at Indian Institute of Space Science and Technology under Prof. GRKSS Manyam and Prof. Deepak Mishra.
January 2017- April 2017	**Development of a Wheel Chair Control Based on Electro-oculogram** This project was carried out as a part of Product Development Laboratory II (EC 368) under Prof. Lakshi Prosad Roy of NIT Rourkela
June 2016-July 2016	**Gland Segmentation in Histopathology Images Using Random Forest Guided Boundary Construction** Successfully completed this research project under Dr. Angshuman Paul of ECSU, ISI Kolkata, as a part of "*3rd Summer School on Computer Vision, Graphics and Image Processing*" organised by ISI Kolkata and Indian Unit for Pattern Recognition and Artificial Intelligence.

Publications

- **Towards Photorealistic Reconstruction of Highly Multiplexed Lensless Images**, ICCV 2019, Seoul, Korea. **(Oral)**

Workshops Attended

- 3rd Summer School on Computer Vision held at IIIT Hyderabad from July 2 to July 7 2018
- 3rd Summer School on Computer Vision, Graphics and Image Processing held at ECSU, ISI Kolkata from June 1 to July 15 2016

Achievements

- Awarded the prestigious Google Travel Grant to attend ICCV 2019 at Seoul, South Korea.
- National Finalist in NIYANTRA 2017 Annual Student Design Contest
- National Finalist in e-Yantra 2016 Robotics Challenge