

Salman Siddique Khan

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I am a Postdoctoral Associate in the Department of ECE, Rice University with >5 years of experience in computational photography, computer vision and deep learning.

WORK EXPERIENCE

Rice University

Aug. 2023 – Present

Postdoctoral Associate

Houston, TX

Worked with Prof. Ashok Veeraraghavan and Prof. Ashutosh Sabharwal

- Developed: (a) Coded dual-pixel camera (**CADS**) that is **6%** better than conventional dual-pixel cameras for RGB and Depth estimates. (b) Near-eye lensless gaze-tracking system with a dataset of more than **20k pairs**. (c) Few-shot coronary risk estimator from non-gated CTs using **Segment Anything Model (SAM)**

NEC Labs America

Jun. 2022 – Dec. 2022

Research Intern

San Jose, CA

Worked in the Media Analytics team with Dr. Manmohan Chandraker and Dr. Francesco Pittaluga.

- Developed: (a) Lensless optical encryption camera called **OpEnCam**. (b) **Dense Prediction Transformer (DPT)** based cryptanalysis of encryption cameras

EDUCATION

Indian Institute of Technology Madras, India

Jul. 2018 – Jul. 2023

Ph.D., Electrical Engineering, Advisor: Prof. Kaushik Mitra

- Thesis: Learning-based Scene Reconstruction, Design and Inference in Lensless Imaging
 - Developed: (a) Physics-inspired neural nets (**FlatNet**), for lensless reconstruction that offers better image quality and is **25x faster** than SOTA. (b) Encryption camera (**OpEnCam**) that is **~ 17%** more secure than existing encryption cameras
 - Won **Qualcomm Innovation Fellowship - India**

National Institute of Technology Rourkela, India

Jul. 2014 – Jul. 2018

B.Tech., Electronics and Instrumentation Engineering

SELECTED PUBLICATIONS

- Salman S. Khan et al.** (2024) “OpEnCam: Lensless Optical Encryption Camera.” to appear in IEEE Transactions on Computational Imaging (**TCI**)
- B. Ghanekar, **Salman S. Khan et al.** “Passive Snapshot Coded Aperture Dual-Pixel RGB-D Imaging.” IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR 2024**)
- Salman S. Khan et al.** (2020) “FlatNet: Towards photorealistic scene reconstruction from lensless measurements.” IEEE Transactions on Pattern Analysis and Machine Intelligence (**PAMI**)
- Salman S. Khan et al.** “Towards photorealistic reconstruction of highly multiplexed lensless images.” IEEE/CVF International Conference on Computer Vision (**ICCV 2019**)

PROFESSIONAL SERVICES

- Reviewer for: IEEE TPAMI, IEEE TCI, IEEE OJSP, Optics Express; CVPR, ECCV, WACV, ICASSP

SKILLS

Experienced in: computational imaging, computer vision, inverse problems, deep learning, image restoration, vision and language models and medical imaging; PyTorch, Tensorflow, scikit-learn; Docker, Linux, GitHub, BASH