# Gagan Kanojia

Technical Lead - Computer Vision, The Hi-Tech Robotic Systemz Ltd.

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CONTACT
INFORMATION

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INTERESTS

**Deep Learning, Computer Vision, and Robotics**

EDUCATION

**Ph.D.** (Research Area: Computer Vision and Deep Learning)      May 2015 - June 2020
*Indian Institute of Technology Gandhinagar*
Advisor: Dr. Shanmuganathan Raman
CPI : 9.39/10

**B.Tech.**, Electrical Engineering (Minor in Computer Science and Engineering)      August 2010- April 2014
*Indian Institute of Technology Gandhinagar*
CPI : 7.72/ 10

TECHNICAL
SKILLS

Programming Languages: C, C++, Python, MATLAB
Libraries and Scripts: ROS, PyTorch, Tensorflow, OpenCV, Numpy

WORK
EXPERIENCE

**Technical Lead - Computer Vision**      July 2021 - Present
*The Hi-Tech Robotic Systemz Ltd.*
- Worked on computationally efficient **pallet detection and picking** for **autonomous pallet trucks**.
- Worked on camera-based solution for **screw tightening** using **robotic arm** with **1mm** precision.
- Lead the development of **hybrid (Laser+QR) navigation** stack for **autonomous mobile robots**.
- Worked on **obstacle avoidance** for **autonomous mobile robots**.

**Research Engineer II**      August 2020 - July 2021
*OLA Electric Mobility Pvt. Ltd.*
- Worked on **self-supervised depth estimation** using monocular cameras for autonomous vehicles.
- Worked on computationally efficient solution for **absolute depth estimation** using monocular cameras.
- Worked on **image segmentation** and **object detection** techniques for different business use-cases.

**Ph.D. Research Scholar**      May 2015 - June 2020
*Indian Institute of Technology Gandhinagar*
- Worked on **detection and removal of moving objects** present in videos or images captured using handheld cameras.
- Worked on a variety of computer vision related problems like **image classification, action recognition, dynamic object detection** and **depth estimation**.
- Worked with **convolutional neural networks, recurrent neural networks** and **generative adversarial networks**.

**Senior Software Engineer**      May 2014 - May 2015
*eClerx Services Limited*
- Worked on OCR-based data extraction for key attributes from a scanned document.

AWARDS

**The Spotlight Award** at Ola Electric Mobility Pvt. Ltd      February 2021
**TCS Research Scholarship** at IIT Gandhinagar      July 2016 - July 2020
**Best Paper Runner-up** at NCVPRIPG 2019      December 2019
Awarded for "Exploring Temporal Differences in 3D Convolutional Neural Networks." at National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG), 2019
**The Spot Award** at eClerx Services Ltd.      September 2014

Publications  Sudhakar Kumawat, Gagan Kanojia, and Shanmuganathan Raman. "**ShuffleBlock: Shuffle to Regularize Deep Convolutional Neural Networks.**" In Twenty Eighth National Conference on Communications (NCC), 2022.

Gagan Kanojia, and Shanmuganathan Raman. "**Learning to Sort Image Sequences via Accumulated Temporal Differences.**" arXiv preprint arXiv:2010.11649 (2020).

Gagan Kanojia, and Shanmuganathan Raman. "**Simultaneous Detection and Removal of Dynamic Objects in Multi-view Images.**" In Winter Conference on Applications of Computer Vision (WACV), 2020.

Gagan Kanojia, and Shanmuganathan Raman. "**MIC-GAN: Multi-view assisted Image Completion using Conditional Generative Adversarial Networks.**" In Twenty Sixth National Conference on Communications (NCC), 2020.

Gagan Kanojia, Sudhakar Kumawat, and Shanmuganathan Raman. "**Attentive spatio-temporal representation learning for diving classification.**" In IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2019.

Gagan Kanojia, and Shanmuganathan Raman. "**Patch-based detection of dynamic objects in Crowd-Cam images.**" In The Visual Computer 35.4 (2019): 521-534.

Gagan Kanojia, Sudhakar Kumawat, and Shanmuganathan Raman. "**Exploring Temporal Differences in 3D Convolutional Neural Networks.**" In National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG), 2019. (**Best Paper Runner-up Award**)

Gagan Kanojia, and Shanmuganathan Raman. "**DeepImSeq: Deep image sequencing for unsynchronized cameras.**" In Pattern Recognition Letters 117 (2019): 9-15.

Gagan Kanojia, and Shanmuganathan Raman. "**Postcapture focusing using regression forest.**" In IEEE Signal Processing Letters 24.6 (2017): 751-755.

Gagan Kanojia, Sri Raghu Malireddi, Sai Chowdary Gullapally, and Shanmuganathan Raman. "**Who Shot the Picture and When?.**" In International Symposium on Visual Computing, pp. 438-447. Springer, Cham, 2014.

Gagan Kanojia, and Shanmuganathan Raman. "**FacialStereo: Facial depth estimation from a stereo pair.**" In Computer Vision Theory and Applications (VISAPP), 2014 International Conference on, vol. 3, pp. 686-691. IEEE, 2014.