

## Nikita Surya

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<https://www.linkedin.com/in/nikita-surya>

### Education:

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#### Masters in Robotics Systems Engineering

**RWTH Aachen**, Templergraben 55, 52062 Aachen, NRW, Germany

Sep 2018- Aug 2020

GPA: 2.7/5.0

Relevant coursework: Computer Vision, Machine Learning, Advanced Computer Vision, Advanced Machine Learning

#### Bachelors of Technology in Electronics and Communications

**Shiv Nadar University**, Greater Noida, India

2013-2017

GPA: 7.13 /10

Relevant coursework: Data Structures, Problem Solving through Programming, Signals and Systems, Digital Signal Processing

### Technical Skills

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- Programming: Python (Proficient), C (Familiar), MATLAB, SQL
- Data Science: Numpy, TensorFlow, Pytorch, Pandas, Scikit-Learn, Keras, Open CV
- Operating Systems: Windows, Linux, macOS
- Technologies and Frameworks: IoT, Git

### Professional Experience

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#### Research Assistant, Cybernetics Lab, IMA IFU, RWTH Aachen

Sep 2019-Present

- Project coordinator- DB Cargo AG, Mainz
- Increasing the quality of rail transport through image data-based damage pattern recognition in rail vehicles- QUISS
- Discontinuity detection, OCR of wagon ID, rescale wagon images, discover common objects in a wagon type, estimate the performance based on this information.

#### Research Assistant, IRT RWTH Aachen

April 2019- Aug 2019

- Control of artificial heart pump (LVAD).
- Proper estimation of sensor values using Kalman filter.

#### Robotics Trainee, Ford SVAEP, Sanand, Gujarat

June 2018-Aug 2018

- Study of different applications, kinematics and dynamics of Kawasaki robots.

#### Research Officer, SUTD, Singapore (final year project of Bachelors)

Jan 2017 – May 2017

- Collision avoidance in a swarm system using received signal strength of XBee (signal processing).
- Advances in power flow management of a swarm system using bq4050 (battery gauge by TI).
- Under Singapore MIT Alliance for Research and Technology and Center for Environmental Sensing and Modelling (CENSAM).

### Relevant Projects

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- Implemented Canny edge detection. 2019
- Homography estimation of a planar object from two different view-points. 2019
  - Hessian keypoint detection, Region descriptor matching, Homography estimation.
- Implementation of Object Detection for Autonomous Driving. Built a deep-learning model to detect cars using publicly available dataset from drive.ai. This model takes a plain input image and outputs a list of bounding boxes.

### Positions of Responsibility held

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- IEEE Women in Engineering, President (at Shiv Nadar University) 2015 -2017
- IEEE Women in Engineering, Secretary (at Shiv Nadar University) 2013-2015

### Achievements

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- Achieved 3<sup>rd</sup> position in IIT-Delhi Maze Follower Competition (Tryst) 2015
- Achieved 2<sup>nd</sup> position in Texas Instruments Competition at SNU. 2014

### Extracurricular Activities

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- Secured 100% merit scholarship for the entire undergraduate study.