

## S Deepak Narayanan

Senior Undergraduate  
Computer Science and Engineering  
Indian Institute of Technology Gandhinagar

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### Education

Degree	Institute	CPI/%	Year
B.Tech	IIT Gandhinagar	9.23/10	2016-present
Class XII	Maharishi Vidya Mandir School	96.8 %	2016
Class X	DAV Senior Secondary School	10/10	2014

### Internships

- **Analyzing streams of data: Applications in Acoustics** May 2019 - July 2019  
*Summer Undergraduate Research Fellow at California Institute of Technology*  
My project involved recreating acoustic effects produced by expensive guitar pedals real-time. I was successfully able to recreate the effect produced by a shimmer pedal real time using IoTPy. Some of my work can be found [here](#) and [here](#).
- **A study on local methods for estimating the shell index in a network** May 2018 - July 2018  
*Summer Research Fellow at Indian Institute of Technology Ropar*  
My project included study of core-periphery structure of social networks, shell index and its importance, node influence, virality of nodes and design of approximation algorithms using local search techniques.

### Projects and Software

- **Scalable air quality estimation using multi-modal data** August 2018 - April 2019  
*Research Project, Guide: Prof. Nipun Batra*  
In this research project, I integrated data from air monitoring sensors, satellites and weather stations and built a scalable machine learning model that will help estimate air quality.
- **Polire - A spatial interpolation toolkit** April 2019 - present  
*Software for reproducible research, Guide: Dr. Nipun Batra*  
I am a core contributor to Polire, and implemented interpolation algorithms such as IDW, Nearest Neighbors, Kriging and Natural Neighbors. Polire is hosted on GitHub.
- **Sampling to speed up K-Means clustering** March 2019 - April 2019  
*Course Project, Introduction to Data Science*  
I implemented various sampling algorithms to speed up clustering based on clustering on the sampled data points. Obtained interesting insights into how sampling can help speed up K-Means algorithm.
- **Unsupervised Cross Domain Image Generation** January 2019 - April 2019  
*Course Project, Machine Learning*  
I implemented generative adversarial networks (GANs) to create a functional mapping between two different image domains. Given a source domain sample, I had to produce the corresponding target domain sample.

### Technical skills

- **Programming Languages, Frameworks and Softwares:** Python, C, C++, Verilog HDL,  $\text{\LaTeX}$ , PyTorch

### Scholastic Achievements

- Featured in the Dean's List for **academic excellence** at IIT Gandhinagar for all the six semesters concluded thus far. I am also a re
- Secured an **A+** grade in the course **Linear Algebra and Differential Equations**. This grade is awarded as a mark of excellence.
- Recipient of the prestigious NTSE Scholarship since 2014.
- Selected for the prestigious KVPY Fellowship in 2016.