

## Nidhin Harilal

Junior Undergraduate  
Discipline of Computer Science and Engineering  
Indian Institute of Technology, Gandhinagar

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## EDUCATION

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**Indian Institute of Technology, Gandhinagar**  
B.Tech. in Computer Science and Engineering  
Overall GPA: 8.42

*August 2017 - Present*

**Pragati Public School, Kota**  
Intermediate / +2 (CBSE affiliated)  
Overall Percentage: 90.4

*2016 - 2017*

**DAV Public School, Surajpur**  
Matriculation (CBSE affiliated)  
Overall GPA: 10

*2013 - 2014*

## RESEARCH / ACADEMIC PROJECTS

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**Deep Learning for Climate Change Adaptation and Mitigation**  
*Prof. Udit Bhatia*

July 2019 - Present  
*Research Project*

- Earth System Models (ESM) are run at spatial resolutions too coarse for assessing effects this localized. The spatiotemporal nature of the climate system motivates the adaptation of deep learning approaches to statistical downscaling.
- Exploring and Inter-comparison of current Deep learning approaches such as CNNs, LSTMs towards Statistical Downscaling. The Task is to propose an neural network architecture which outperforms current implementations for high-resolution weather forecast using low resolution ESM values.

**Simulating Brownian motion from unpredictability in quantum realm**  
*Prof. Krishna Kanti Dey*

Oct - Nov 2018  
*Academic Project, Physics Lab*

- Used the phenomenon of Quantum Tunnelling and designed a emitter reverse biased transistor circuit for generating random output. Unbiased the output by using Von Neumann decorrelation.
- Verified the randomness of output using byte-wise arithmetic mean, chi squared test and Monte Carlo pi test. Simulated a Wiener process using the random bits generated as displacement.

**Two Tier Morse Code Encoder-Decoder using FPGA**  
*Prof. Joyce Mekie*

Oct - Nov 2018  
*Academic Project, Digital Systems*

- Designed a two tier real time encryption-decryption transmitter and receiver machine which takes in a dynamic input in the form of a Morse code and further encodes the message using the Base64 encryption algorithm.

**Maths behind Earthquakes**  
*Prof. Chetan Pehlajani*

April - May 2018  
*Academic Project, Linear Algebra & Differential Eqns.*

- Studied regression based mathematical models which quantified direct damages from earthquakes to properties given the magnitude, intensity, depth of focus, location of epicentre and time duration.

## OTHER KEY PROJECTS

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### Personal Assistant(Chatbot)

Dec 2018

*Hackathon, Inter IIT Tech Meet 2018, IIT Bombay*

Developed a Personal Assistant Chatbot which will notify people to take medicines on time based on doctors prescription along with the feature of custom notifications. Additionally, Integrated features such as Live railway PNR status and railway availability.

### POHAR- Post Cyclone Aiding System

Nov 2018

*Coding Hackathon Team Selection, IIT Gandhinagar*

Developed a Post Cyclone Aiding System which helps to identify safe areas/routes and hospitals in flood/cyclone hit areas along with availability of resources. Integrated a feedback system for obtaining status about various affected regions.

## PROFESSIONAL EXPERIENCE

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### Capgemini Technology Services Pvt. Ltd.

May - Jul 2019

*Summer Intern*

- Facenet neural network architecture for Face Recognition from video frames of a scene using a stored database of faces with the constraint of 'one sample per person'.
- Creating a scalable web-app to take live Video input, showing recognized faces and updating results to the cloud(Firebase).

## ADMINISTRATIVE EXPERIENCE

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### Hackrush: IIT Gandhinagar's annual Hackathon

Nov2018 - Feb 2019

*Core Organizer and Question stakeholder*

### Academic Council, IIT Gandhinagar

Aug 2018 - Aug 2019

*Coordinator of Class Representatives*

### Academic Discussion Hours

Aug 2018 - Aug 2019

*Teaching Assistant for Computing (Python) ES112, Introduction to Computing ES102*

### Class Representative

Aug 2017 - Sept 2018

*Discipline of Computer Science, Freshman Year*

## OTHER SKILLS AND QUALIFICATIONS

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<b>Languages</b>	Python, C, Javascript, HTML/CSS
<b>Frameworks</b>	Tensorflow, Keras, Flask, Django, NodeJS,
<b>Other Tools</b>	Git, L <sup>A</sup> T <sub>E</sub> X, Arduino
<b>MOOCs</b>	Neural Networks and Deep Learning Specialization (Coursera), Tensorflow Specialization (Coursera)

## ACHIEVEMENTS

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- \* Recipient of **Deans List: 2017-18 Sem II, 2018-19 Sem III**, awarded by IIT Gandhinagar for excellent academic performance.
- \* Qualified for BBC Fighting Fake News Hackathon. **(Google, Gurugram) (2018)**
- \*Winner of CBSE All India Annual Science Exhibition **(Mount-Abu School, Delhi) (2014)**