

# Ritik Dutta

<https://ritik99.github.io>  
dutta.ritik@iitgn.ac.in | +91-958-6986574

## EDUCATION

### IIT GANDHINAGAR

BTECH IN COMPUTER SCIENCE &  
ENGINEERING

2016 - 2020 | Gandhinagar, India  
GPA : 8.88/10.0

### PACE JR. SCIENCE COLLEGE

CLASS XII

Grad. May 2016 | Mumbai, India  
Grade : 87.80 %

### DAV PUBLIC SCHOOL

CLASS X

Grad. May 2014 | Mumbai, India  
Grade : 94.8 %

## LINKS

Github:// [ritik99](#)  
LinkedIn:// [ritik99](#)

## MAINTAINER

Causal Discovery Toolbox (CDT)

## COURSEWORK

### UNDERGRADUATE

Machine Learning  
Data Science  
3D Computer Vision  
Natural Language Processing  
Nature Inspired Computing  
Data Structures & Algorithms  
Topology  
(Teaching Asst.) Intro. Programming

## SKILLS

### PROGRAMMING

Python • C++ • C  
R • Java • Javascript  
L<sup>A</sup>T<sub>E</sub>X

### FRAMEWORKS

PyTorch • TensorFlow  
Keras • Numba • Chainer

## RESEARCH INTERNSHIPS

### INRIA | DR. ISABELLE GUYON

May 2019 – Present

- Observational causal discovery for categorical data: Extending Structural Agnostic Model to learn causal graphs on data containing categorical features

### CHALEARN | DR. ISABELLE GUYON & DR. KRISTIN BENNETT

Apr 2018 – May 2019

- Generation of privacy-preserving synthetic medical data: Exploring techniques to generate synthetic data, evaluation metrics for resemblance and privacy

## EXPERIENCE

### TEXAS A&M UNIVERSITY | DR. SUNIL CHIRAYATH

May 2018 – Jul 2018

- Worked on a Python program for source-attribution of chemically-separated Plutonium

### HUMBEE.IN | VIVEK NAUTIYAL

May 2017 – Jun 2017

- Wrote ReactJS scripts and python programs to stream data from news and social media sources

## RESEARCH PROJECTS

### MOTIF DISCOVERY WITH TOPIC MODELS

Aug 2018 – Present | Dr. Anirban Dasgupta

- Exploring the use of topic models to discover binding sites of proteins on DNA.

### IMAGE HASHING AS AN ADVERSARIAL DEFENSE (LINK)

Feb 2019 – Apr 2019 | Machine Learning Course Project

- Evaluated the use of image hashing and SEGAN as defenses against adversarial attacks such as the FGSM and C&W attacks.

### EFFECT OF FEATURE HASHING ON FAIR CLASSIFICATION

Feb 2019 – Apr 2019 | Data Science Course Project

- Evaluated the effect of feature hashing data on fair classification under a multi-task setting.

### ADVERSARIAL LEARNING

Aug 2017 – Nov 2017 | Dr. Dinesh Garg

- Engaged in literature review on GANs and possible adversarial attacks against machine learning models.

## PUBLICATIONS

### PRIVACY PRESERVING SYNTHETIC HEALTH DATA (PDF)

Apr 2019 | ESANN 2019, Bruges, Belgium

A Yale, S Dash, R Dutta, I Guyon, A Pavao, K Bennett