

NIMITT

Undergraduate, Computer Science ♦ IIT Gandhinagar

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EDUCATION

Indian Institute of Technology Gandhinagar

2022 - 2026

Bachelor of Technology, Computer Science and Engineering

Grade: **9.13** / 10

KC Public School, Una

2021-2022

Higher Secondary (+2)

Grade: **95.6** / 100

KC Public School, Una

2019-2020

Secondary

Grade: **93.3** / 100

RESEARCH INTERESTS

Randomized Algorithms; Distribution Testing and Property Testing; Probabilistic Methods; Approximate Counting and Sampling; Learning Theory

PUBLICATIONS

Clément L. Canonne, Nimitt. (authors listed alphabetically)

Distributed Gaussian Mean Testing under Communication Constraints: messages, samples, and coins.

Accepted at **RANDOM 2026**.

Preprint version: [arXiv:2605.29426](https://arxiv.org/abs/2605.29426), 2026.

RELEVANT COURSES

Computational Complexity Theory [**A**]

Data-Centric Computing [**A**]

Data Structures and Algorithms [**A**]

Data Structures and Algorithms II [**A-**]

Probability, Statistics & Data Visualization [**A**]

Algebraic Complexity Theory [**A**]

Measure Theory And Probability [**P**]

Computer Vision [**A**]

Machine Learning [**A-**]

Foundations of AI: Multi Agent Systems [**A-**]

Natural Language Processing [**A-**]

Signals Systems and Random Processes [**A**]

Digital Systems [**A**]

Ordinary Differential Equations [**A+**]

Linear Algebra and Calculus of One Variable [**A**]

[**A**]: 10/10, [**A-**]: 9/10, [**A+**]: 11/10 (Awarded in rare, exceptional cases)

SELECTED RESEARCH PROJECTS

Quantum Computing for Machine Learning

Spring 2026

Undergraduate researcher, Prof. Anirban Dasgupta, IIT Gandhinagar

- Conducted Literature Review on Quantum Computing Techniques (QML) for Machine Learning.
- Showed Expressivity of QML Models like Variational Quantum Circuits, Quantum PCA using phase estimation, and Quantum SVMs on standard machine learning tasks.

- Developed SQORE: Simple Quantum Operations Engine, a high level quantum simulator.

Distributed Gaussian Mean Testing under Communication Constraints

Spring 2026

Undergraduate researcher, Prof. Clément Canonne, The University of Sydney

- Derived upper bounds on the sample complexity of distributed Gaussian mean testing under finite shared randomness and heterogeneous sampling.

Probability Amplification and Distribution Testing

Summer 2025

Undergraduate researcher, Prof. Clément Canonne, The University of Sydney

- Surveyed probability amplification techniques and distribution property testing, leading to subsequent research on distributed Gaussian mean testing.
- Built a library, `ralgos`, with sampling and inference tools for random distributions.

Prediction of intermediate profiles during etching

May 2024 - July 2024

Undergraduate researcher, SRIP 2024, Prof. Nihar Ranjan Mohapatra, IIT Gandhinagar

- Used Synopsys Topography tool to generate dataset using simulation programs for Selective HCl etching of Ge against Si used in GAAFET manufacturing.
- Trained LSTM models on the dataset which demonstrated the ability to precisely predict the output of process with relative errors less than 5%, given the parameters of the process

SELECTED TECHNICAL PROJECTS

Posense: Human Activity Recognition

Spring 2024

Fellow, Prof. Nipun Batra, IIT Gandhinagar

- Analyzed the UCI-HAR dataset with time-series data of thirty subjects performing six activities.
- Harnessed the TSFEL library for feature extraction and PCA for dimensionality reduction.
- Trained a Decision Tree model on the featurized data and tested it using the activity data collected with the Physics Toolbox Suite app to achieve 70% precision and 67% accuracy.

CVToolkit: Computer Vision Toolkit

Fall 2023

Fellow, Prof. Shanmuganathan Raman

- Developed Computer Vision tools like denoising filters: Gaussian, Median and Box filter, Image Blending using Laplacian pyramids, Panorama Stitching, Lucas-Kanade Algorithm, SIFT Feature mapping, Camera Estimation and Stereo Rectification.

QALGO: Quantum Programming Language

Spring 2025

Fellow, Prof. Balagopal Komarath, IIT Gandhinagar, [Project Link](#)

- Built a high-level quantum programming language that provides abstraction for general programming constructs and quantum operations.
- Designed Sqore with (q)MIPS bytecode making it an efficient alternative to other quantum simulators.

NextMove: Logical Puzzle and Graph based Games developed using C

Fall 2023

Fellow, Prof. Balagopal Komarath, IIT Gandhinagar

- Developed solvers for games like Connect4, Up-it-Up, Sudoku Solver, and 2x2x2 Rubik's Cube Solver using optimal move strategy between two player moves and graph traversal algorithms.

NanoChat: Next Word Predictor on an FPGA

Spring 2024

Fellow, Prof. Joyce Mekie, IIT Gandhinagar

- Trained a character level LSTM model on curated dataset of IIT Gandhinagar Advisories

- Used Digital Systems concepts to implement trained model on Nexys FPGA Board having limited computational resources

ACHIEVEMENTS

Daya Shanker and Shakuntala Scholar, IIT Gandhinagar	2025
Dean's list Semester 1, 2, 3 and 4, IIT Gandhinagar	2022-24
Academic Citation Semester 6, IIT Gandhinagar	2025
JEE Mains and Advanced, 2022 Qualifier	2022
National Talent Search Examination, 2020 scholar	2021
NDA Examination, 2022 Qualifier	2022

SKILL SUMMARY

Programming Languages	Python, C, C++, MATLAB, Lean
Scientific Libraries	Matplotlib, Numpy, Scipy, Pytorch, Qiskit
Research Tools	LaTeX, Git

POSITION OF RESPONSIBILITIES AND EXTRACURRICULAR

HackRush, 2024	Jan - April 2024
<i>Member</i>	

- Contributed in organising HackRush 2024, IIT Gandhinagar's flagship Hackathon where > **300** students participated.

Systems Programming Club, IIT Gandhinagar	2023 - 2024
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- Contributed in organising CTF Hackathons and workshops conducted by the club

Squash Club, IIT Gandhinagar	May 2024 - May 2025
<i>Secretary</i>	

- Managed all the squash club activities, building the squash and sports culture in the community.
- Lead Squash Team, IIT Gandhinagar in Inter-IIT Sports Meet, 2024 to Quarterfinals.

Sports Achievements

- Professional Squash Player, holding All India Rank < **500** in India National Open Rankings.
- State Level Chess Player, Himachal Pradesh, India