

ACADEMIC DETAILS

Degree	Specialization	Institute	Year	CPI/%
B.Tech.	Computer Science and Engineering	IIT Gandhinagar	2022-Present	8.49
Class XII	Physics, Chemistry, Maths	St. Paul School, Nagpur	2021-2022	90.5
Class X		Priyadarshini School, Nagpur	2019-2020	96.8

INTERNSHIP EXPERIENCE

- Member of Technical Staff Intern | DevRev

[May '25 – July '25]

Sandbox Configuration Export Tool (Internal Platform) | [Project Presentation](#)

Designed and built a CLI-based configuration export tool to replicate DevRev environments across organizations using **Pulumi (Infrastructure as Code)**.

Implemented a scalable **Golang-based serialization engine** to convert platform resources into dependency-safe Pulumi YAML configurations.

Collaborated across multiple internal platform teams to serialize, align, and integrate independently owned resources into a unified export pipeline and long-term extensibility.

Extended backend functionality and improved system reliability by adding required APIs and fixing issues discovered during development.

PROJECTS

- Large Integer Addition using AVX-512 & ARM NEON SIMD

[Aug '25-Nov '25]

(Prof. Abhishek Bichhawat, IIT Gandhinagar) | [Poster](#)

Designed a parallel multi-stage algorithm for large integer addition using SIMD vectorization on **AVX-512 (x86)** and **NEON (ARM)** architectures.

Implemented a queue-based addition strategy to efficiently handle carry propagation across wide integers.

Leveraged SIMD intrinsics and multi-core parallelism to achieve significant speedups over sequential addition.

Evaluated performance across architectures, analyzing scalability with compiler optimizations and parallel execution.
- Smart Guard IoT Application

[Mar '25 – May '25]

(Prof. Sameer Kulkarni, IIT Gandhinagar) | [Project Link](#)

Developed an ESP32-based IoT monitoring system with a Node.js/Express backend and PostgreSQL database.

Built a React + Vite dashboard for live data visualization and alert management.

Designed RESTful APIs for sensor data retrieval and threshold-based alerts.

Containerized frontend and backend; created a Makefile for streamlined development.
- Number Conversion Simulator And IEEE-754 Convertor

[Oct '24 - Nov '24]

(Prof. Sameer Kulkarni, IIT Gandhinagar) | [Project Link](#) | [App Link](#)

Built a GUI-based tool using React.js to teach concepts such as number system conversion process and IEEE-754 conversion process.

Implemented real-time visualization of the conversion steps of the number system, including fractional and base-to-base conversions.
- Algorithmic Solutions of various Games using data structures

[Sept '23 - Nov '23]

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

Implemented functions for optimal move selection in two-player games such as Connect4, Game of Sim, and Tic-Tac-Toe using graph traversal algorithms.

Developed solutions for games like Up-it-Up, puzzle8, and 2x2x2 Rubik's Cube Solver, employing efficient numeric encoding strategies to minimize computational complexity in storing moves and board positions.
- Text Generator based on next character prediction using MLP

[Feb '24 - Mar '24]

(Prof. Nipun Batra, IIT Gandhinagar) | [Project Link](#) | [App Link](#)

Developed and deployed a character prediction pipeline using context from preceding characters for text generation.

Trained models on diverse corpora including Shakespeare's writings and LaTeX code, with extensive hyperparameter tuning to evaluate and compare model performance.

Deployed a Streamlit application for interactive selection of hyperparameters such as block size and embedding size, providing real-time output visualization of the trained models.
- Human Activity Recognizer Analysis

[Mar '24 - Apr '24]

(Prof. Nipun Batra, IIT Gandhinagar) | [Project Link](#)

Analyzed and processed the UCI-HAR dataset, featuring time-series accelerometer data from thirty subjects engaged in six activities: walking, sitting, standing, running up, running straight, and running down.

Leveraged TSFEL library to extract out features from the time-series, performed Principal Component Analysis (PCA) for dimensionality reduction.

- Trained a Decision Tree model on featurized data and achieved a 76% accuracy on activity classification using data collected from the Physics Toolbox Suite app for testing.

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, Verilog, HTML, CSS, SQL, Javascript, Go.
- **Tools:** : Xilinx Vivado, LATEX, Git, Arduino UNO, Docker, AWS.
- **Libraries:** : Numpy, SciPy, Pandas, Matplotlib, Seaborn, TensorFlow, Tensorboard, Scikit-Learn, Stramlit, Flask, React.js, Pulumi(IaC).

ACHIEVEMENTS

- Felicitated with **Dean's List Award** IITGN for **Semester I, II** for excellent academic performance.
- Secured **5th Rank** in Competitive Programming Section of HackRush, IITGN's Annual Hackathon
- Secured an All India Rank of **7001** in the Joint Entrance Exam (Advanced).

RELEVANT COURSES

- **Institute Courses:** Machine Learning, Data Structures and Algorithms, Data Centric Computing, Probability Statistics and Data Visualization, Calculus of a single variable and Algebra, Calculus of Several Variables, Discrete Mathematics, Natural Language Processing, Computer Organization and Architecture, Computer Networks and Security, Foundation of AI - Multiagent Systems, Operating System, Computer Networks, Data Science.