

ACADEMIC DETAILS				
Degree	Specialization	Institute	Year	CPI/%
B.Tech.	Computer Science & Engineering	IIT Gandhinagar	2024-Present	8.90
Class XII	Physics, Chemistry, Maths	Purna Vikash Central School, CBSE	2024	97.8%
Class X		Sri Sundarmal Modern School, SEBA	2022	92.5%

- PROJECTS
- Machine Learning Algorithms — Implementation & Analysis

[Jan '26 - Apr '26]

ES335 Machine Learning, IIT Gandhinagar | Python, NumPy, Scikit-learn, Pandas
 - Designed controlled experiments to analyse convergence and stability trade-offs across Batch GD, SGD, and Mini-Batch GD on regression tasks — structuring ambiguous problems into clear, testable hypotheses.
 - Built a Decision Tree classifier (info-gain + pruning) and applied KNN, Logistic Regression, and SVM with k-fold cross-validation to compare model performance; used PCA for dimensionality reduction and 2D visualisation to communicate findings clearly.
 - Image Classification on CIFAR-10: CNN vs. MLP

[Jan '26 - Apr '26]

ES335 Machine Learning, IIT Gandhinagar | PyTorch, NumPy, Matplotlib
 - Analysed CNN vs. MLP performance on CIFAR-10 (60,000 images, 10 classes), identifying a 31-percentage-point accuracy gap (84% vs. 53%) and diagnosing its architectural drivers through systematic ablation studies.
 - Visualised feature maps and loss curves to translate model internals into a clear, evidence-backed explanation of the performance gap; applied dropout regularisation based on this analysis.
 - Limit Order Book Simulator

[June '26]

C++, STL (map, queue)
 - Built a limit order matching engine simulating exchange mechanics, processing and analysing order flow data — price-time priority matching, partial fills, and live book state tracking across multiple price levels.
 - Engineered price levels using std::map for O(log n) access, enabling efficient querying and analysis of order book state at scale.
 - Unix Shell Interpreter

[June '26]

C++, POSIX API (fork, execvp, pipe, dup2)
 - Implemented a functional Unix shell in C++ supporting command execution, piping (cmd1 | cmd2), I/O redirection (>, <), and background processes (&).
 - Applied POSIX system calls (fork, execvp, dup2, waitpid) for process creation and inter-process communication.

- TECHNICAL SKILLS
- Programming Languages:** Python (primary), C++, C, Verilog
 - Data / Analysis:** Pandas, NumPy, Matplotlib, Scikit-learn, PyTorch, data visualisation, hypothesis testing, k-fold cross-validation
 - CS Fundamentals:** Data Structures & Algorithms, OOP, Algorithm Design & Analysis
 - Tools:** Git, Jupyter Notebook, Linux

- RELEVANT COURSEWORK
- Computer Science:** Machine Learning, Data Structures & Algorithms I, Data Structures & Algorithms II, Data-Centric Computing, Computing, Computer Organisation & Architecture
 - Mathematics:** Linear Algebra, Calculus of Single Variable, Calculus of Several Variables, Probability, Statistics & Data Visualization, Ordinary Differential Equations, Numerical Methods

- POSITIONS OF RESPONSIBILITY
- Election Commissioner, Student Election Commission — IIT Gandhinagar

[Jan '26 - Present]

Spearheading end-to-end Student Body Elections for 3,000+ students; overseeing nominations, campaign regulations, and result declaration, coordinating a team of election officers.
 - Events Executive, Blithchron Cultural Festival — IIT Gandhinagar

[Aug '24 - Apr '25]

Organised flagship events at IIT Gandhinagar's annual cultural festival; managed logistics, vendors, and on-ground execution for 500+ attendees.

- ACHIEVEMENTS
- Secured a branch change from Dual Degree Mechanical Engineering to B.Tech. Computer Science & Engineering at IIT Gandhinagar — among fewer than 10 students selected batch-wide.