

ACADEMIC DETAILS

Degree	Specialization	Institute	Year	CPI/%
B.Tech.	Civil Engineering	Indian Institute of Technology, Gandhinagar	2022-Present	7.03/10
Class XII	Physics, Chemistry, Maths	DAV Chandrasekharpur, Bhubaneswar	2020-2021	95.6
Class X	ICSE	De Paul School, Berhampur	2018-2019	97.4

INTERNSHIPS

- **Industrial Internship – MRI Lab, IIT Gandhinagar** [May'2025 - July'2025]
(Prof. Udit Bhatia / QGIS / Hydrology / Urban Flood Modelling / AIResQ)
 - Conducted urban flood modelling for Mumbai using hydrological and GIS-based spatial techniques to assess stormwater response and inundation risk.
 - Compiled and processed ward-level demographic and drainage datasets to support integrated resilience modelling.
 - Contributed to flood vulnerability assessment aimed at improving municipal infrastructure planning and adaptive design strategies.

PROJECTS

- **Network Analysis of the U.S. Aviation System (2010)** [Mar'2025 - April'2025]
(Prof. Udit Bhatia, IIT Gandhinagar)
 - Constructed a directed weighted network of 1,574 U.S. airports and 17,215 flight routes using the NetworkX library.
 - Performed centrality, community, and clustering analysis, revealing the hub-and-spoke structure and major connectivity nodes (ATL, ORD, LAX).
 - Identified regional clusters and system vulnerabilities, showing that while the network is efficient under random failures, it is susceptible to targeted disruptions of key hubs.
- **Experimental Structural Analysis of a Spaghetti Stick Truss Bridge** [Mar'2024 - April'2024]
(Prof. Manish Kumar, IIT Gandhinagar)
 - Designed and constructed a scaled truss bridge model using spaghetti sticks to simulate real-world structural systems.
 - Performed static load tests to study member stresses, joint behavior, and overall bridge stiffness.
 - Conducted failure and deflection analysis to evaluate load-bearing capacity and failure modes.
 - Compared experimental results with theoretical predictions from classical truss analysis, highlighting material limitations and buckling effects.
- **Consolidation and Settlement Analysis** [Oct'2024 – Nov'2024]
(Prof. Amit Prashant, IIT Gandhinagar)
 - Conducted laboratory consolidation tests to study soil settlement behavior under varying loads and drainage conditions.
 - Analyzed time-settlement relationships and derived key parameters such as coefficient of consolidation and compression index
 - Utilized Excel-based data modelling to visualize consolidation curves and validate experimental results with theoretical predictions.
- **Field Survey and Terrain Modelling** [Mar'2024 – April'2024]
(Prof. Vimal Mishra, IIT Gandhinagar)
 - Conducted multi-instrument survey operations including staking out, road profiling, and bathymetry to understand terrain mapping and elevation analysis.
 - Performed a planning survey for a proposed building site, quantified cut-and-fill volumes using Digital Level data.
 - Processed elevation datasets in QGIS to generate DEMs and calculate earthwork requirements for construction planning.

TECHNICAL SKILLS

- **Civil Engineering Softwares:** AutoCAD, Autodesk Inventor, SAP2000, HEC-RAS, HEC-HMS, QGIS, GeoStudio
- **Research and Analysis Tools:** Python, JAVA, Gephi, LaTeX, VS Code

EXTRA CURRICULAR ACTIVITIES

- **Player, Inter-IIT Sports Meet** [Dec'2023]
 - Represented IIT Gandhinagar in Chess at the 37th *Inter-IIT Sports Meet*, hosted by IIT Gandhinagar, demonstrating strategic thinking, composure, and competitive excellence at a national collegiate level.
- **Member, IITGN Chess Club** [Jan'2023 - Present]
 - Organized *Kautilya Chess League 2.0–4.0* and *Hallabol'2023–'2025*, fostering inter-college and intra-college participation
 - Collaborated with peers to coordinate and represent IITGN in multiple inter-college tournaments at IIM Ahmedabad, PDEU, and Ahmedabad University.