Niraj Kumar

2nd year Undergraduate
Computer Science and Engineering
Indian Institute of Technology, Gandhinagar

niraj.kumar@iitgn.ac.in
+91 9835994887
LinkedIn | Github

ACADEMIC DETAILS

Degree	Specialization	Institute	Year	CPI/%
B.Tech.	*Computer Science and Engineering*	IIT Gandhinagar	2024-Present	8.37
Class XII	*Physics, Chemistry, Maths*	L.M. High School, Pupri, Bihar	2022-2024	88.4
Class X		JNV Sitamarhi, Bihar	2021-2022	94.8

RESEARCH EXPERIENCE

- **Independent Research in Explainable AI (XAI)** [Jan 2026 -Present]
  IIT Gandhinagar | Supervisor: Prof. Manisha Padala, Assistant Professor, Computer Science and Engineering
  - Conduct machine learning research to evaluate the security and reliability of leading AI explainability tools under the supervision of Prof. [Name].
  - Construct biased algorithmic models using real-world criminal justice (COMPAS) and financial (German Credit) datasets to test the limits of algorithmic fairness tools.
  - Design an adversarial framework that reliably fools LIME and SHAP into outputting innocuous explanations for fundamentally biased decision-making models.
  - Utilize Python, Pandas, and InterpretML to visualize feature importance shifts, proving that current XAI tools can be manipulated by bad actors.

  Skills & Tools: Explainable AI (XAI), Algorithmic Fairness, SHAP, LIME, Adversarial ML, Out-of-Distribution (OOD) Detection.

PROJECTS

- **Personal Portfolio Website** [Jan 2026]
  Project Link Github Link
  - Designed and developed a responsive personal portfolio website to showcase projects, skills, and professional details.
  - Implemented structured sections including About Me, Skills, Projects, and Contact for clear navigation.
  - Practiced responsive web design principles for compatibility across different screen sizes.
  - Improved understanding of frontend development, UI design, and website structuring through hands-on implementation.

- **GUI-Based Real-Time Weather Application using Python** [March 2025]
  Project Link
  - Developed a GUI-based Weather Application using Python and Tkinter as part of self-learning.
  - Integrated OpenWeatherMap REST API to fetch real-time weather data using HTTP requests and implemented API error handling for invalid city names and empty user input.
  - Designed a CSV-based persistence system to store and manage search history.
  - Gained hands-on experience with API integration, file handling, and modular Python code.

ACHIEVEMENTS

- Ranked in the top 3.24% out of 250,000+ candidates in the AlgoUniversity Tech Fellowship (ATF) 2025.
- Was in the top 0.19 % in JEE Mains 2024 and secured an All India Rank of 3022.
- Secured an All India Rank of 3585 in JEE Advanced 2024.

POSITIONS OF RESPONSIBILITY

- **EII IIT Gandhinagar - Tech Lead & Events Coordinator** [July 2025 - Present]
  - Enterpreneurship cell of IIT Gandhinagar.
  - Serving as Tech Lead for EII 2025, responsible for maintaining and updating the official EII website handling updates, debugging, and deployment.
  - I coordinate with event organizers to integrate event information, registrations, and announcements on the website.
  - As a member of core team, I take initiative in organizing hands-on workshops and guest lectures, supporting technical logistics and participant engagement.
  - Developed strong technical leadership, communication, and coordination skills while working with cross-functional teams and managing real-world deadlines.

- **TEDx IITGandhinagar - Junior Events Executive** [Sep 2024 - March 2025]
  - Helped in curating events ideas and managing the whole one day series of talks and events organized as a part of TEDxIITGandhinagar '25.
  - As a junior member, I developed skills in persuasion, management, improved communication skills.

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, C, Javascript
- **Web:** HTML, CSS, Node.js
- **ML / Data:** PyTorch, NumPy, Pandas, Scikit-Learn, Matplotlib
- **Frameworks:** Bootstrap, Tailwind CSS
- **Tools:** Autodesk Inventor Professional, Matlab, Git, Github