

Ashish Bairwa

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EDUCATION

Indian Institute of Technology Kanpur

B.S. - Mathematics and Scientific Computing

Kanpur, India

2025

Jawahar Navodaya Vidyalaya Baran

Class XII(CBSE) - **86.6%**

2019

Jawahar Navodaya Vidyalaya Baran

Class X(CBSE) - **10.0 CGPA**

2017

PROJECTS

NewsMania | React.js, Node.js, MongoDB, Express.js, RSS feeds | [Github](#) | [Demo](#) Dec'25 – Jan'26

- Developed a scalable full-stack news dashboard that aggregates and presents real-time headlines from four major national newspapers in a single interface using **React**, **Node.js**, and **MongoDB**, **Express.js**.
- Implemented a hybrid **caching** architecture combining **MongoDB** with an **in-memory** fallback layer.
- Reducing external **API** calls by **90%** and ensuring continuous data availability during database outages.
- Delivered a smooth **cross-device** user experience by designing a highly responsive **CSS Grid** layout with a unique **Dark Mode** system (using CSS variables).

LinkShrink | React.js, Node.js, MongoDB, Express.js, nanoID | [Github](#) | [Demo](#) Oct'25 – Nov'25

- Designed a **URL** Shortener service using **React**, **Node.js**, **Express.js**, **MongoDB** and **nanoID**.
- Used **collision-resistant** seven-character alphanumeric keys with **NanoID** technology to engineer **high-performance unique** encryption for effective **database indexing** and retrieval.
- Implemented an **asynchronous click-event** tracking pipeline that records real-time engagement analytics without blocking **redirect** responses, maintaining **fast user-facing** performance.

Directory Organizer | Python, pathlib, OOP, Logging | [Github](#) Jul'25 – Aug'25

- Built robust **CLI tool** for **automated file management** processing directories with over one hundred files, **batch organization** and configurable **extension mappings**.
- Ensured data integrity in large transfers via **reversible ops**, full **undo support**, and **conflict** detection.
- Built integrated **logging (INFO, WARNING, ERROR)** for audit trails and real-time file ops tracking, using **pathlib** for **cross-OS** path handling without platform specific bugs.

TECHNICAL SKILLS

Programming Languages: C++, JavaScript, Python, SQL.

Frontend Development: React.js, REST API integration, HTML, CSS

Backend Development: Node.js, Express.js, REST API design, Middleware, JWT, MongoDB

Developer Tools: Git, Github, VS code, Postman

Core CS: Data Structure, Algorithms, OOPs, System Design

Machine Learning: Supervised and Unsupervised learning, Deep Learning, GANs