

BALKARAN SINGH

Personal Portfolio

Ropar, Punjab

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Education

Dr. B.R. Ambedkar National Institute of Technology, Jalandhar

Bachelor of Technology in Computer Science, CGPA: 8.52

Aug 2023 – Present

Jalandhar, Punjab

Shri Guru Ram Rai Sen Sec School, Ropar

Senior Secondary Education (12th: 94.4%, 10th: 92%)

2019 – 2023

Ropar, Punjab

Experience

Campus Hostel Allotment Website (Backend Developer)

Sep 2025 – Present

Improved backend features and solved critical logic issues for the campus hostel allotment system

Jalandhar, Punjab

- Implemented a rule-based validation system to restrict more than two students from the same state per room, ensuring fairness in first-year hostel allotment.
- Enhanced room-status visualization with color-coded indicators for fully booked, partially booked, and empty rooms, and collaborated with the team to optimize allocation logic and overall backend efficiency.

Projects

Fluento - Connect and Speak | ReactJS, TailwindCSS, ExpressJS, NodeJS, DaisyUI, Stream.io

[GitHub](#)

May 2025

- Developed a full-stack MERN language exchange platform with real-time chat, HD video calling, and a 7+ page architecture. Engineered a multi-state user journey with a 2-tier friend system (pending/accepted) and live updates.
- Integrated Stream.io APIs for 1080p video quality and unlimited sessions. Secured the app with JWT authentication, used MVC structure in backend, implemented 4-tier responsive breakpoints, and designed a mobile-first interface with 32+ DaisyUI themes and 7 DiceBear avatars (200×200px).

Shrinkster - URL Shortner | ReactJS, MongoDB, NodeJS, Express, Tanstack, Redux Toolkit

[GitHub](#)

March 2025

- Architected a scalable, high-performance URL shortener with custom slugs, guest/auth modes, and real-time analytics across 10+ REST APIs with error handling.
- Executed secure authentication using JWT, bcrypt, and middleware for data validation, achieving sub-200ms response time and 99.9% uptime. Designed a responsive React frontend powered by Redux Toolkit and TanStack Query, featuring 15+ reusable components and smooth UI transitions.

DijkstraGram - Live Dijkstra Visualizer | C++, HTML/CSS, React, Node.js, Express.js, JavaScript

[GitHub](#)

Jan 2025

- Constructed a Dijkstra visualizer with 25×55 grid, real-time path animation, drag-and-drop walls, and step-by-step highlighting to enhance algorithm learning.
- Built a full-stack app with React frontend and Node.js backend, integrating a live C++ editor for real-time algorithm execution across a 3-page responsive layout. Enhanced the learning experience with interactive visualization, dark/light theme toggle, and adaptive layouts for screens above 480px.

Technical Skills & Certifications

Languages: C, C++, Python, JavaScript, HTML/CSS

Frameworks & Libraries: React.js, Node.js, Express.js, Tailwind CSS, Redux Toolkit, DaisyUI, TanStack Query, REST APIs, bcrypt

Databases & Tools: MongoDB, MySQL, Git, GitHub, VS Code, JWT Authentication, Cloudinary, Postman, Render

Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Database Management Systems, Computer Networks

Certifications: Completed [The Web Developer Bootcamp 2025](#) by Colt Steele (Udemy) — Full-stack development(MERN)

Coding Profiles

LeetCode — Mastered 900+ problems on LeetCode (Knight badge), specializing in algorithms, data structures.

Code 360 — Completed 100+ coding challenges and earned 30+ badges by mastering core DSA topics.

GeeksforGeeks — Solved 100+ practice problems, demonstrating proficiency in algorithms and securing an institute rank under 850.

Achievements

- Achieved a **1950+** rating on LeetCode, earned **625 rank** in Biweekly Contest 163 and **369 rank** in Biweekly Contest 165.
- Acquired **5th rank** in Codestorm Campus Competition (2nd Year) among all 2nd-year students.
- Competed in the Vibe Coding Challenge: Inter-College Edition 2025, orchestrated by B. M. Institute of Engineering & Technology (BMIT), Sonapat, and secured a spot in the Finale.