

# Sumedh Vats

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## EDUCATION

### Chandigarh University

Mohali, India

*Bachelor of Technology in Computer Science Engineering, 2023 – Present*

*CGPA: 8.72*

### Vikas Bharati Public School

Delhi, India

*Higher Secondary, 2022*

*Percentage: 82%*

## SKILLS

- Programming Languages: Java, Python, C++, JavaScript, TypeScript
- Frameworks: Node.js, Express.js, React.js, Next.js, Tailwind CSS
- Databases: MongoDB, SQL, Prisma
- Cybersecurity: OAuth2, JWT, secure authentication flows
- Tools: VS Code, IntelliJ, Postman, Git, Linux
- Other: Data Structures & Algorithms (150+ problems solved), System Design, RESTful APIs

## PROJECTS

### Brainly — *Node.js, Express.js, React.js, Tailwind CSS, MongoDB*

2024

- Architected a real-time collaborative note-taking platform that enables users to create, organize, and share notes with embedded social content, driving a 40% increase in user engagement based on embedded content usage.
- Engineered a RESTful backend serving 100+ active users, reducing API latency by 30% through optimized MongoDB queries and MVC design.
- Secured user data with JWT-based authentication, resulting in zero reported breaches during user testing.
- Designed and deployed a responsive UI with React.js and Tailwind CSS, achieving a 95% Lighthouse performance score.

### DrawDraw — *Next.js, TypeScript, Prisma, Turborepo*

2025

- A real-time collaborative drawing application where multiple users can draw on a shared canvas and communicate via integrated voice chat.
- Built a platform supporting 50+ simultaneous users with <200ms latency for seamless collaboration.
- Orchestrated monorepo management with Turborepo, improving development efficiency by 25%.
- Implemented secure OAuth2 authentication, resulting in a 100% success rate in penetration testing.
- Developed robust database operations with Prisma, ensuring 99.9% data integrity during stress tests.

### Etch-a-Sketch — *JavaScript, CSS*

2025

- An interactive web-based drawing board that lets users sketch, erase, and customize grid size and colors.
- Designed an interface used by 200+ users, featuring adjustable grid sizes and color customization.
- Enhanced user experience by introducing eraser mode and real-time UI updates, increasing session time by 20%.

### MazeGen — *C++*

2024

- A C++ tool that generates and visualizes mazes of varying complexity using advanced algorithms.
- Implemented maze generation algorithms (Prim's, Recursive Backtracking) to create 1,000+ unique mazes.
- Visualized maze structures with ASCII rendering, streamlining debugging and user interaction.
- Enabled dynamic complexity adjustment, catering to beginner and advanced users.

## ACHIEVEMENTS

- Collaborated with a multidisciplinary team at Smart India Hackathon (SIH) to design and prototype a solution addressing a national challenge.
- Secured a top-decile placement in Hack the Future at BITS Pilani by developing a prototype that addressed key challenges more effectively than 90% of 200+ competing teams.
- Solved 200+ coding problems on LeetCode and Codeforces, achieving a top 20% global ranking.