

# Yash Rathod

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## Summary

Software Engineering student with strong proficiency in C++ for algorithmic problem solving, optimization, and backend logic design. Solved over 600 problems on LeetCode, demonstrating expertise in Data Structures, Algorithms, and Object-Oriented Programming (OOP). Hands-on experience in developing and deploying scalable full-stack applications using Node.js, Express.js, React.js, and Firebase. Skilled in RESTful API development, database management (MongoDB, MySQL), and real-time communication with Socket.io. Passionate about building reliable, high-performance systems that deliver real-world impact, with a strong interest in backend engineering and healthcare technology.

## Education

Parul University, B.Tech in Computer Science

Sept 2022 – June 2026

- CGPA: 8

## Projects

### AI Travel Planner

- **AI Travel Planner** – A full stack web application that generates personalized travel itineraries and hotel recommendations using AI integration.
  - Designed and implemented RESTful APIs using Node.js and Express.js to ensure secure data flow and efficient backend communication.
  - Developed dynamic and responsive user interfaces with React.js (Hooks, Context API) and TailwindCSS, adhering to modern UI/UX design standards.
  - Integrated Google Places API for fetching location data, ratings, and photos, ensuring seamless frontend-backend integration.
  - Managed user authentication and authorization with Firebase Authentication and handled CRUD operations via Firestore for persistent data storage.
  - Conducted performance testing and debugging using Chrome DevTools to enhance responsiveness and maintainability.
  - Collaborated in an Agile environment, participating in code reviews and documentation for frontend modules.
  - Deployed the application on Firebase Hosting with continuous deployment and scalability support.
  - **Technologies Used:** React.js, Context API, TailwindCSS, Node.js, Express.js, Axios, Google Places API, Copilot, Firebase Firestore, Firebase Authentication

### Library Finder

- **Library Finder** – A Python-based system for efficiently locating books and subjects across library sections using multiple search criteria.
  - Developed both console and GUI applications using Python (Tkinter) and Flask for local and web-based access.
  - Implemented search functionalities by Subject, Classmark, and Location using structured CSV datasets.
  - Designed reusable data-loading and search modules with robust exception handling for missing or corrupted files.
  - Built a lightweight Flask web app integrated with dynamic templates for efficient query processing.
  - Applied Object-Oriented Programming (OOP) principles and modular design to ensure scalability and maintainability.
  - Conducted testing using sample data to verify search accuracy and optimize lookup performance.
  - **Technologies Used:** Python, Flask, Tkinter, HTML, CSV

## CodeWiz

- **CodeWiz** – An AI-powered, full stack code editor enabling real-time developer collaboration and intelligent code assistance.
  - Built reusable and modular UI components using **React.js** and **Context API** for consistent state management and predictable data flow.
  - Developed backend services with **Node.js**, **Express.js**, and **Socket.io** to enable **real-time communication** and collaborative editing.
  - Integrated **AI-based code suggestions** using the **OpenAI API**, enhancing developer productivity and user engagement.
  - Applied **performance optimization** techniques, including React memoization and lazy loading, to improve UI efficiency.
  - Utilized **Mocha** and **Jest** for unit and regression testing to ensure application stability and reliability.
  - Participated in **code reviews**, documentation, and bug triaging alongside QA to improve maintainability and scalability.
  - Deployed the production build on **Vercel**
- **Technologies Used:** React.js, Context API, Node.js, Express.js, Socket.io, WebRTC, CodeMirror, OpenAI API, TailwindCSS, Vercel

## QuickSign

- **QuickSign** – A responsive front-end web application for secure digital signing with a modern, dark-themed UI.
  - Designed clean, accessible interfaces using **HTML, CSS, and JavaScript**, focusing on **UI/UX design** and responsive layout.
  - Applied strong **debugging and testing** techniques to ensure performance consistency across browsers and devices.
  - Collaborated in an **Agile development environment**, managing iterations and performance improvements.
  - Deployed the project using **Heroku**, ensuring reliability and ease of access.
- **Technologies Used:** HTML, CSS, JavaScript, Heroku

## TECHNICAL SKILLS

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- **Programming Languages:** C++ (**Primary – Advanced Problem Solving & Optimization**), Python, Java, JavaScript (ES6+), TypeScript (Basics), C
- **Backend Development:** Node.js, Express.js, Django, RESTful API Design, Authentication & Authorization, Middleware, CRUD Operations, Error Handling, Server-Side Logic, Microservices Architecture
- **Frontend Development:** React.js, Redux, Context API, Next JS, HTML5, CSS3, Tailwind CSS, Bootstrap, Responsive Design, UI/UX Principles
- **Database Management:** MongoDB, MySQL, Firebase Firestore, Schema Design, Query Optimization, Data Modeling
- **Cloud & DevOps:** AWS (Basics), Firebase, Vercel, Cloud Deployment
- **Core Competencies:** Data Structures & Algorithms (C++), Object-Oriented Programming (OOP), Software Development Lifecycle (SDLC), Problem Solving, Design Patterns, Testing & Debugging, Performance Optimization
- **Tools & Version Control:** n8n, Git, GitHub, VS Code, Postman, npm/yarn
- **Methodologies & Practices:** Agile, Scrum, Test-Driven Development (TDD), Cross-Functional Collaboration, Security Best Practices

## CERTIFICATIONS/TRAINING

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- **Oracle Certified Foundations Associate, Java** — Oracle  
Validated knowledge of Java programming, Object-Oriented Programming (OOP), and problem-solving.
- **Computer Networks and Internet Protocol** — NPTEL
- **Theory of Computation** — NPTEL

## ACHIEVEMENTS

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- Led a team to secure **12<sup>th</sup> rank globally** in **DevFest 2024**, contributing to open-source backend and full-stack development projects.
- **Finalist in Odoo Hackathon** (Top 250 out of 19,000+ participants) for developing a scalable application prototype under tight deadlines.
- Solved **600+** algorithmic problems across **Data Structures & Algorithms (DSA)**, **Dynamic Programming (DP)**, and **Graph Theory** in C++, showcasing advanced problem-solving and optimization skills.
- Achieved **27,000+** XP on **CodeStudio** and earned the **Ninja Dominator** title on **Coding Ninjas**; ranked **College Topper** twice on competitive coding leaderboards.
- Consistently apply **C++-based algorithmic thinking** in backend design and system optimization tasks across academic and personal projects.

## EXTRA CURRICULAR ACTIVITIES

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- Coordinated a technical workshop on “**Getting Started with Docker**”, covering core containerization concepts, hands-on setup, and real-world deployment workflows.

## Web Links

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- **GitHub** – [github.com/Yash-2707](https://github.com/Yash-2707)
- **LeetCode** – [leetcode.com/u/yashvrathod2004/](https://leetcode.com/u/yashvrathod2004/)
- **Codolio** – <https://codolio.com/profile/yashvrathod2004>
- **Coding Ninjas (CodeStudio)** – [naukri.com/code360/profile/YashhhRathod](https://naukri.com/code360/profile/YashhhRathod)
- **GeeksforGeeks** – [geeksforgeeks.org/user/yashvrathod/](https://geeksforgeeks.org/user/yashvrathod/)
- **CodeChef** – [codechef.com/users/yashvrathod200](https://www.codechef.com/users/yashvrathod200)