

# Ravi Pratap Singh

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## PROJECTS

### COSMOS Dashboard

July 2025

React.js, Vite, JavaScript, NASA APIs | <https://cosmos-dashboard.vercel.app/>

- Developed a real-time space data visualization dashboard using **React.js and Vite**.
- Created responsive UI components with modern JavaScript ES6+.
- Achieved 95%+ performance optimization, reducing initial load time by 60% via Vite.
- Integrated **4+ NASA APIs for real-time space weather, launch schedules, and Mars data**.
- Authored comprehensive technical documentation.
- Used ChatGPT to automate documentation, explain code, generate API responses, etc.

### TIMORA

August 2025

React.js, Vite, Tailwind CSS, Framer Motion, Capacitor | <https://timora-ods.vercel.app>

- Developed a Pomodoro timer and session/task management app with **React.js and Vite**, achieving 95%+ Lighthouse performance scores.
- Designed and launched 100% responsive UI; implemented 10+ smooth animation variants using **Tailwind CSS v4 and Framer Motion**.
- Enabled cross-platform support, deploying to **web and native Android APK, increasing user reach by 2x**.
- Integrated advanced timer (hours/minutes/seconds), smart archiving, and analytics for productivity tracking.
- Implemented 5+ focus-enhancing features: **audio alerts, haptic feedback, 4 keyboard shortcuts, and fullscreen mode**.

### VERIPACK PROTOCOL

August 2025

#### C, Makefile

- Designed and implemented a modular message protocol in C with byte stuffing and XOR checksum, improving data integrity for embedded applications.
- Developed a CLI interface for real-time testing and validation, supporting interactive and batch modes.
- Achieved 100% separation of interface and logic across 3+ source files for maintainability and portability.
- Integrated start/end frame delimiters (@...#) and control character stuffing for robust transmission in noisy channels.
- Provided step-by-step installation, library integration, and usage documentation to simplify adoption for developers.
- Benchmarked against HDLC and SLIP protocols, maintaining minimal overhead and high reliability in serial communication.

## EXPERIENCE

### Open-Source Contributor | Remote

2024 - Present

- Maintained 42+ open-source repositories with active community engagement.
- 600+ contributions, 30+ pull requests, 7+ issues, 10+ code reviews across 10+ organizations.
- Collaborated using Git, agile practices, and code reviews to ensure quality.
- Developed scalable web applications and mentored other contributors.

### Aspire Community Leader | Kanpur

Aug 2024 – July 2025

Aspire Institute, Harvard University

- Founded and developed a thriving alumni network for Aspire in Kanpur.
- Led community building, advanced Discord management, and event organization.
- Increased program participation and engagement by ~50% via targeted outreach.

Codextream Community

- Designed official website of Codextream Community using Wix Studio
- Mentored 400+ students nationwide in UI/UX and web development through our WhatsApp groups
- Organized 12+ technical quizzes and coding challenges, resulting in a 30% increase in active community participation.
- Introduced 10+ students to GitHub and open source, with 6 making their first contributions under my guidance.

TECHNICAL SKILLS

**Programming:** JavaScript, Java, HTML5, CSS3, C, Python  
**Web:** React.js, Vite, Node.js, Express.js, Responsive Web Design, Supabase,  
**Frontend:** SASS, Tailwind CSS, GSAP, Locomotive, Figma  
**Tools:** Git, GitHub, VS Code, npm, Postman, Google Workspace  
**Development Concepts:** Responsive Design, API Handling, UI/UX Design, Version Control  
**AI Tools:** Prompt Engineering (ChatGPT, Gemini, Claude), Prompt Debugging

EDUCATION

<b>Harcourt Butler Technical University</b>	<b>2023-2027</b>
Bachelor of Technology in Computer Science & Engineering	Kanpur, Uttar Pradesh

**Relevant Coursework:** Data Structures, Software Engineering, Web technology, Operating Systems, Python Programming, Algorithm, Theory of Computation,

ACHIEVEMENTS & EXTRACURRICULAR ACTIVITIES

- Maintained a **technical blog:** [ravixalgorithm.substack.com](https://ravixalgorithm.substack.com)
- Regular participant in coding communities and **open-source contributions (600+ contributions, 30+ pull requests, 7+ issues, 10+ code reviews across 10+ organizations).**
- Recognized as "**Ravixalgorithm**" in developer community for mentorship and knowledge sharing.
- Mentored 10+ students to make first open-source contributions
- **1125 (1 Star) at CodeChef**
- Solved **150+ DSA problems** on platforms like LeetCode, CodeChef, GFG.
- Attended 10+ Coding contest on platforms like CodeChef and Coding Ninjas
- 2x Hackathon Participation (**AstroHack 2025, Build with India 2025**)