

# KUNAL PANTAWANE

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## EDUCATION

**Vidya Pratishthan's Kamalnayan Bajaj Institute of Engineering and Technology (VPKBIET)** Baramati, Pune

*Bachelor of Technology in Information Technology — Savitribai Phule Pune University*

*Aug 2024 – May 2028*

- **CGPA: 8.86 / 10.0**
- Coursework: Data Structures & Algorithms, Computer Networks, Software Engineering

## TECHNICAL SKILLS

**Languages:** Python, JavaScript (ES6+), TypeScript, C++, Java, SQL, HTML5, CSS3

**Frameworks & Libraries:** React.js, Node.js, Express.js, Socket.IO, EmailJS

**AI / ML:** Machine Learning, Generative AI, Linear Regression, NLP, Data Analysis, Data Visualization

**Databases:** MongoDB, SQL

**Cloud & DevOps:** AWS, Firebase, Vercel, Docker

**Tools:** Git, GitHub, VS Code, Cursor IDE

## PROJECTS

**Splitter — Offline-First Group Expense PWA** | *Node.js, Express.js, MongoDB, Vanilla JS, IndexedDB, JWT, Jest* [GitHub](#)

- Architected a production-grade offline-first Progressive Web App for group expense splitting and personal finance tracking, supporting equal, custom, and percentage-based split modes with real-time debt previews.
- Designed an idempotent background sync engine with IndexedDB queuing and exponential retry logic, reducing sync bandwidth by **~96%** (from ~8.5 MB to ~300 KB per sync cycle).
- Built a layered backend (Routes → Controllers → Services → Models) with JWT authentication via HttpOnly cookies, Helmet security headers, CORS, and Express rate limiting.
- Implemented dual settlement algorithms: greedy debt minimization (Smart Mode) and direct pairwise tracking (Normal Mode), with circular debt resolution validated against total debt equivalence.
- Achieved **100% integration test pass rate (49/49 tests, 7 suites)** using Jest, Supertest, and mongodb-memory-server across auth, groups, expenses, sync, settlement, budget, and category flows.

**TimeLens — Chrome Productivity Extension** | *JavaScript, Chrome Extension APIs (MV3), Chart.js, Background Service Workers* [GitHub](#)

- Engineered a Manifest V3 Chrome extension using background service workers, DOM injection scripts, and `chrome.storage` APIs to track real-time website activity with pause/resume and cross-popup state sync.
- Built an analytics dashboard with interactive Chart.js visualizations and a productivity scoring engine classifying **25+** **websites** into productive, neutral, and unproductive categories with smart subdomain matching.
- Implemented privacy-first local storage with automated 30-day data retention, JSON export, and zero external network dependencies.

**TaskMaster — Full-Stack Task Manager** | *React 18, Node.js, Express.js, MongoDB, JWT, Bcrypt, Axios* [GitHub](#)

- Developed a complete MERN stack application with JWT stateless authentication, bcrypt password hashing (12 salt rounds), protected API middleware, input validation, and XSS-sanitized inputs on client and server.
- Designed RESTful API with full CRUD task operations, user-level data isolation, priority management (Low/Medium/High), and status-based filtering; deployed frontend on Vercel.
- Implemented React Router v6 client-side navigation with protected routes, Axios async data fetching, and fully responsive CSS3 UI with gradient design system.

**RealTime Chat Application** | *Node.js, Express.js, Socket.IO, WebSockets, Vanilla JS* [GitHub](#)

- Built a bidirectional real-time messaging system using Socket.IO WebSocket events (broadcast, room-based, and targeted emission) with live typing indicators and online user presence tracking.
- Managed in-memory user sessions via a Map (socket ID → username); debounced typing events at 1s threshold to reduce server load; applied client-side HTML escaping for XSS protection.

**Weather App** | *Node.js, Express.js, React.js, OpenWeatherMap API, REST API* [GitHub](#)

- Built a full-stack weather application with an Express backend proxying OpenWeatherMap API calls to resolve CORS, serving a React frontend with live weather data, city autocomplete (cities.json), and dynamic UI rendering.

**Personal Portfolio Website** | *HTML5, CSS3, JavaScript, EmailJS, GitHub Pages, Vercel* [kunalpantawane.me](http://kunalpantawane.me)

- Designed and deployed a production portfolio website with animated star backgrounds, theme toggle (dark/light), lazy-loaded images, a honeypot anti-spam contact form powered by EmailJS, and full SEO metadata (Open Graph, Twitter Cards, canonical URLs); deployed on custom domain via Vercel and mirrored on GitHub Pages.

## Royal Polypack — Industrial Supply & Delivery Platform | *Node.js, Express.js, PostgreSQL, Next.js, Docker*

- Designed system architecture for a B2B industrial packaging platform with phone OTP authentication, smart area/date-based delivery batch clustering, inventory reservation flows, and a real-time admin KPI dashboard.
- Structured a production-grade layered backend with PostgreSQL migrations, transactional order workflows, Docker containerization, and a TypeScript SDK for third-party integrations.

## EXPERIENCE

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### AI Web Development Intern

May 2026 – Present

*InAmigos Foundation*

*Remote*

- Contributing to AI-integrated full-stack web development projects using modern frontend and backend technologies.
- Exploring practical applications of Generative AI tools within web development workflows.

## ACHIEVEMENT & INVOLVEMENT

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### GDG On Campus — VPKBIET, Baramati

Baramati, Pune

*Member — Google Developer Groups On Campus*

*Sep 2025 – Present*

- Active member of the Google Developer Group On Campus chapter; participated in Google Cloud Study Jams, hands-on cloud labs, and technical sessions organized in collaboration with GDG India.
- Earned multiple Google Cloud skill badges upon successful completion of the Study Jams 2025–26 program.

### Information Technology Students Association (ITSA)

VPKBIET, Baramati

*Active Member & IIT Bombay Tech Ambassador*

*Aug 2025 – Present*

- Represented IIT Bombay's technical outreach program at the college level; facilitated workshops, event coordination, and engineering initiative promotion across the student community.

### Smart India Hackathon (SIH) 2025

National Level

*Team Participant*

*Sep 2025*

- Competed in India's largest national hackathon; contributed to end-to-end system design, rapid prototyping, and technical documentation under time-constrained competitive conditions.

## CERTIFICATIONS & CREDENTIALS

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**NPTEL (IIT Madras) — Python for Data Science** | *Elite Certificate, Score: 68%, License: NPTEL25CS104S331800314* | Aug 2025

**NPTEL — Database Management Systems** | *Score: 55%, License: NPTEL26CS39S551900103* | Mar 2026

**NPTEL — Enhancing Soft Skills & Personality** | *Elite Certificate, Score: 71%, License: NPTEL25HS87S941800080* | Apr 2025

**Google Cloud Study Jams 2025–26** | *Multiple Skill Badges — GDG On Campus VPKBIET, License:*

*BCfBVtzTrGWBTKVU7cor* | Feb 2026

**AWS — Introduction to Generative AI: Art of the Possible** | *Amazon Web Services* | Jul 2025