

Yash Agarwal

Full-Stack Software Engineer

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EDUCATION

Graphic Era Hill University

B.Tech. in Computer Science & Engineering; Honors in ML & AI

Uttarakhand, India

Aug 2023 – July 2027

EXPERIENCE

Full-Stack Web Developer Intern

Arterns Technologies Private Limited

May 2025 – July 2025

Dehradun, Uttarakhand

- Developed backend infrastructure for Applicant Tracking System with automated resume parsing. Designed RESTful APIs and implemented Firebase database architecture with secure authentication using Node.js.
- Engineered real-time communication system using Socket.io integrated with Firebase, enabling data synchronization across distributed clients with support for multiple concurrent connections.
- Implemented internationalization across 8+ pages in Next.js, managing content delivery and locale-specific routing for corporate wellness platform.

PROJECTS

Daily Ledger - Smart Collection Tracker | React, Firebase, Vite, Tailwind

Oct 2025 – Present

- Built production PWA for real-time collection management with collaborative list sharing and offline support. Implemented Firestore security rules with owner-based access control and server-side timestamp validation.
- Architected real-time collaboration system enabling users to share lists with granular permissions and instant synchronization. Designed map-based data structure supporting efficient permission checks for concurrent multi-user editing.
- Deployed on Vercel achieving 90+ Lighthouse score with 208 KB gzipped bundle. Engineered analytics dashboard with payment tracking and Excel export functionality.

IoT Automatic Plant Watering System | ESP8266, Firebase, React, C++

Jun 2025 – Jul 2025

- Designed and built autonomous IoT system monitoring soil moisture and dispensing water, fully integrated with cloud backend and real-time web dashboard at **bloomwatch-webapp.vercel.app** for remote monitoring and control.
- Engineered secure Wi-Fi configuration portal and implemented token-based Firebase authentication, enabling users to adjust moisture thresholds, watering cycles, and manually trigger pumps with safety features through interactive dashboard displaying real-time telemetry graphs.
- **Outcome:** Improved water conservation and plant health with 20% increase in watering efficiency; preparing for commercial launch with modular hardware design for scalability.

Interactive 3D Resume Builder | React, Three.js, MongoDB, Spring Boot

Feb 2025 – May 2025

- Developed RESTful backend services using Spring Boot with MongoDB integration. Implemented JWT authentication, session management, and auto-save functionality with optimistic locking for concurrent editing.
- Architected WebSocket infrastructure enabling real-time collaboration with conflict resolution and operational transformation, supporting synchronized multi-user editing with sub-second latency.
- Optimized 3D rendering through efficient geometry batching, achieving 60 FPS on mid-range devices while maintaining accessibility features.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, Java, C++, SQL

Backend & Frameworks: Node.js, Spring Boot, Flask, Express.js, RESTful APIs

Frontend: React, Next.js, Three.js, Tailwind CSS

Databases: Firebase Firestore, MongoDB, PostgreSQL, Redis

DevOps & Tools: Git, Docker, Vite, Vercel, WebSockets, Socket.io, PWA

SOFT SKILLS

Problem-Solving, Cross-Functional Collaboration, Agile Development, Technical Communication