Yash Agarwal

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EDUCATION

Graphic Era Hill University *Uttarakhand, India*
B.Tech. in Computer Science & Engineering; Honors in ML & AI *Aug 2023 – July 2027*

EXPERIENCE

Full-Stack Web Developer Intern *May 2025 – July 2025*
Arterns Technologies Private Limited *Dehradun, Uttarakhand*

- Developed full-stack Applicant Tracking System (ATS) with automated resume parsing and student assessment module for **menticate.com**. Built Node.js backend APIs with Firebase authentication and database integration.
- Engineered real-time chat functionality using Socket.io integrated with Firebase, and architected reusable theme system enabling seamless site-wide dark mode across multiple pages and components.
- Led development of **we-are-on-leaf.vercel.app** and implemented i18next internationalization across 8+ pages in **vedichealings.com** Next.js codebase, delivering complete Spanish language support.
- Reduced project timeline overruns by 20% by identifying and resolving critical API authentication issues, implementing proactive risk mitigation strategies in an Agile environment.

PROJECTS

Daily Ledger - Smart Collection Tracker | *React, Firebase, Vite, Tailwind* *Jan 2025 – Present*

- Built production-ready Progressive Web App (PWA) for real-time collection management with collaborative list sharing, offline support, and installable mobile experience. Deployed on Vercel with comprehensive Firebase security rules protecting user data and access control.
- Implemented real-time collaboration system enabling users to share collection lists with granular permissions and instant synchronization across devices. Architected Firestore data model with owner-based access control, member management, and transaction tracking supporting concurrent multi-user editing.
- **Outcome:** Achieved Lighthouse score of 90+ across all metrics with 208 KB gzipped bundle size. Engineered analytics dashboard with daily summaries, monthly targets, payment tracking, and Excel export functionality for data-driven decision making.

Final Year Project Management Portal | *Next.js, Firebase, Node.js, Tailwind* *Aug 2025 – Present*

- Architected scalable backend infrastructure supporting 1,500+ concurrent users for university-wide final year project management system. Implemented complex data modeling for 400+ project teams with multi-phase workflow tracking and evaluation.
- Engineered multi-role access control system with distinct dashboards for students, administrators, faculty, panelists, and external reviewers. Integrated Firebase authentication with real-time email notification workflows.
- **Outcome:** Deployed production-ready platform scheduled for official university-wide adoption, streamlining project evaluation workflows and enabling automated meeting scheduling with team notifications. Platform scaling to 3,000+ users across multiple campuses starting 2026.

Interactive 3D Resume Builder | *React, Three.js, MongoDB, Spring Boot* *Feb 2025 – May 2025*

- Developed full-stack application visualizing resume data in an immersive 3D forest environment, offering unique and engaging user interface experience.
- Implemented secure JWT authentication, auto-save versioning, and real-time collaboration features using WebSockets, enabling seamless multi-user editing with conflict resolution.
- **Outcome:** Delivered highly interactive and personalized resume experience, increasing user engagement and providing novel alternative to traditional formats.

Wikipedia Path Finder | *Python, Flask, BeautifulSoup, Redis, MongoDB, Docker* *Oct 2024 – Dec 2024*

- Developed distributed backend service tracing traversal path from given Wikipedia page to 'Philosophy' page by recursively clicking first link, implementing intelligent loop detection and dead-end handling.
- Implemented two-tier caching strategy utilizing Redis for frequent paths and Docker containerization, ensuring horizontal scalability and faster response times under load.
- **Outcome:** Achieved 80% reduction in pathfinding and parsing runtime through optimization, significantly lowering infrastructure costs and improving user experience.

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.

Technical Skills

Languages: Java, Python, JavaScript, TypeScript, C++
Frameworks: React, Next.js, Node.js, Flask, Spring Boot
Databases & Storage: MongoDB, Firebase, Redis, PostgreSQL
Developer Tools: Git, Docker, Vite, BeautifulSoup, Postman, WebSockets
Machine Learning: Matplotlib, scikit-learn, TensorFlow, Keras

Soft Skills

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