

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 an Applicant Tracking System featuring automated resume parsing capabilities. 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 efficient data synchronization across distributed clients with support for multiple concurrent connections.
- Led full-stack development of a corporate wellness platform, implementing internationalization across 8+ pages in Next.js while managing content delivery and locale-specific routing.
- Reduced deployment failures by 20% through systematic debugging of API authentication workflows and implementation of comprehensive error handling mechanisms.

PROJECTS

Final Year Project Management Portal

Aug 2025 – Present

- **Tech Stack:** Next.js, Firebase (Firestore, Authentication), Node.js, Tailwind CSS
- Architected scalable backend 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 role-based access control system with five permission levels ensuring secure data access. Integrated Firebase Authentication with custom claims and optimized database schemas for enhanced query performance.
- Deployed production system with automated email notifications and real-time synchronization, achieving sub-200ms API response times. Platform scaling to 3,000+ users across multiple campuses starting 2026.

Wikipedia Path Finder

Oct 2024 – Dec 2024

- **Tech Stack:** Python, Flask, BeautifulSoup, Redis, MongoDB, Docker
- Developed distributed backend service tracing Wikipedia page connections using breadth-first search algorithm with intelligent loop detection and dead-end handling mechanisms.
- Implemented two-tier caching strategy utilizing Redis for hot paths and MongoDB for persistent storage. Containerized application with Docker enabling horizontal scalability and efficient load distribution.
- Achieved 80% reduction in average query latency and 65% decrease in database load through optimization, enabling 10x increase in concurrent request capacity.

Interactive 3D Resume Builder

Feb 2025 – May 2025

- **Tech Stack:** React, Three.js, MongoDB, Spring Boot, WebSockets
- Developed and maintained 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.
- Delivered production-ready full-stack application supporting collaborative editing with automatic version control and rollback capabilities.

TECHNICAL SKILLS

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

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

Frontend: React, Next.js, HTML5, CSS3, Tailwind CSS

Databases: MongoDB, Firebase Firestore, Redis, MySQL

DevOps & Tools: Docker, Git, Firebase Cloud, Postman, WebSockets, Socket.io