Yash Agarwal

+91 9027601476 | 190e785@gmail.com | linkedin.com/in/yash-agarwal-190e785 | github.com/190-785

Education

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

Technical Skills

Languages: C++, Python, Java, JavaScript, TypeScript, SQL
Core Concepts: Data Structures & Algorithms, OOPS, DBMS, Operating Systems, System Design
Technologies: Node.js, React, Redis, Firebase, Docker, MongoDB, Socket.io, Git
Libraries: STL (C++), NumPy, Pandas, Scikit-learn, BeautifulSoup

Experience

DataCulture Technologies Private Limited *New Delhi, India (Hybrid)*
IoT & Software Developer Intern *May 2025 – Nov 2025*

- Engineered firmware using **C++** for an automated irrigation system, optimizing sensor polling intervals to reduce power consumption while maintaining real-time data accuracy.
- Developed a low-latency telemetry dashboard using React and Firebase, handling real-time state synchronization for remote hardware control and monitoring.
- **Patent Filed:** Co-authored and filed a patent for the system's novel architectural approach to remote agricultural automation and water conservation.
- **Performance:** Achieved "Exceeded Expectations" rating in Technical Competency and Deliverables. Commended for strong documentation practices and collaborative problem-solving.

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

- Architected a scalable Applicant Tracking System (ATS) backend using Node.js; optimized API response times for parsing large volumes of resume data.
- Implemented real-time bi-directional communication using **Socket.io**, enabling instant messaging and live status updates with minimal latency.
- Refactored legacy codebases to support i18next internationalization, improving maintainability and extending platform reach to Spanish-speaking demographics.

Projects

Wikipedia Distributed Path Finder | *Python, Redis, Docker, Algorithms* *Oct 2024 – Dec 2024*

- Designed a graph traversal engine to trace paths between Wikipedia pages; implemented **intelligent loop detection** and dead-end handling algorithms to ensure traversal validity.
- Engineered a two-tier caching layer using **Redis**, reducing redundant network requests and cutting average pathfinding runtime by **80%**.
- Containerized the application using Docker for consistent deployment and horizontal scalability across distributed environments.

Daily Ledger - Real-Time Transaction System | *React, Firebase, Logic* *Jan 2025 – Present*

- Built a high-concurrency transaction tracking system supporting real-time collaborative editing. Implemented optimistic UI updates to mask network latency for a seamless user experience.
- Designed a robust Firestore schema with granular security rules (Row Level Security equivalent) to handle multi-user permissions and secure concurrent writes.
- Optimized bundle size to 208 KB (gzipped) achieving 90+ Lighthouse performance scores.

University Project Management Portal | *Next.js, Node.js, System Design* *Aug 2025 – Present*

- Architected a system supporting **1,500+ concurrent users** with role-based access control for students, faculty, and external auditors.
- Modeled complex relationships for 400+ project teams, optimizing database queries to handle heavy read/write loads during submission deadlines.
- Deployed production-ready infrastructure scheduled for campus-wide adoption in 2026.