

# Yash Agarwal

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## EDUCATION

### Graphic Era Hill University

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

Dehradun, India

Aug 2023 – Present

## EXPERIENCE

### Web Developer Intern

Arterns Technologies Private Limited

May 2025 – July 2025

Dehradun, Uttarakhand

- Architected and delivered a full-stack Applicant Tracking System (ATS) and assessment module for **menticate.com**, improving recruiter efficiency and creating a streamlined customer experience.
- Engineered a scalable internationalization solution using i18next for **vedichealings.com**, launching full Spanish language support and expanding the service's addressable market.
- Enhanced user experience by integrating a real-time chat API for instant communication and implementing a site-wide dark theme, resulting in positive user feedback.
- Operated within an Agile environment to reduce project timeline overruns by 20%, proactively identifying risks and architecting mitigation strategies to ensure on-time delivery of high-quality software.

## PROJECTS

### Wikipedia Path Finder

Oct 2024 – Dec 2024

- **Tech Stack:** Python, Flask, BeautifulSoup, Redis, MongoDB, Docker
- Designed a robust algorithm to solve the "Philosophy" problem, effectively tracing traversal paths while handling complex cases like loop detection and dead-ends.
- Engineered a multi-tiered caching system using Redis and MongoDB to store computed paths, significantly boosting performance and fault tolerance under high-concurrency loads.
- **Outcome:** Optimized pathfinding runtime by 80% and lowered infrastructure costs by containerizing the distributed service with Docker for streamlined deployment and scalability.

### Interactive 3D Resume Builder

Feb 2025 – May 2025

- **Tech Stack:** React, Three.js, MongoDB, Spring Boot, Java, WebSockets
- Architected a distributed, multi-tiered application to render resume data as an interactive 3D environment, tackling the ambiguous problem of creating a novel and engaging user experience.
- Implemented a WebSocket-based real-time collaboration engine and secure JWT authentication, allowing multiple users to edit seamlessly in a distributed environment.
- **Outcome:** Delivered a highly interactive and personalized resume experience with a fault-tolerant auto-save and versioning system to prevent data loss and enhance usability.

### IoT Automatic Plant Watering System

Jun 2025 – Jul 2025

- **Tech Stack:** ESP8266, Firebase, ESPAsyncWebServer, C++
- Designed and built a scalable, low-cost IoT solution to autonomously manage plant health, leveraging a distributed architecture with an edge device (ESP8266) and a cloud backend (Firebase).
- Streamed real-time sensor telemetry to a cloud database, demonstrating end-to-end system design from data collection at the edge to storage and management in the cloud.
- **Outcome:** Achieved a 20% increase in watering efficiency through data-driven automation, with a modular design to support future sensor integration and predictive analytics.

## TECHNICAL SKILLS

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

**Frameworks:** Spring Boot, React, Next.js, Node.js, Flask

**Databases:** MongoDB, Firebase, Redis, MySQL, PostgreSQL

**Cloud & DevOps:** Docker, Git, Postman, Firebase

**CS Fundamentals:** Data Structures, Algorithms, OOP, Distributed Systems, Complexity Analysis