

Yash Agarwal

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EDUCATION

Graphic Era Hill University

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

Uttarakhand, India

Aug 2023 – Present

EXPERIENCE

Web Developer Intern

Arterns Technologies Private Limited

May 2025 – July 2025

Dehradun, Uttarakhand

- Engineered a full-stack Applicant Tracking System (ATS) and student assessment module, focusing on efficient data management and retrieval for **menticate.com**.
- Designed and integrated a real-time chat API, improving user interaction and data flow within the platform.
- Implemented internationalization (i18n) for **vedichealings.com**, demonstrating attention to detail and ability to scale applications for diverse user bases.
- Operated within an Agile framework, contributing to a 20% reduction in project timeline overruns by proactively identifying and mitigating development risks.

PROJECTS

Graph-Based Pathfinding & Optimization Engine

Oct 2024 – Dec 2024

- **Tech Stack:** Python, Flask, BeautifulSoup, Redis, MongoDB, Docker
- Developed a backend service to solve the "Philosophy Game" by modeling Wikipedia as a graph and implementing a recursive traversal algorithm to find paths between nodes.
- Engineered a robust loop and dead-end detection system to handle complex edge cases in the data graph, ensuring reliable path discovery.
- **Outcome:** Optimized pathfinding runtime by over 80% by integrating a Redis caching layer for frequently accessed paths, demonstrating a strong grasp of performance and scalability.

Interactive Data Visualization & Collaboration Platform

Feb 2025 – May 2025

- **Tech Stack:** React, Three.js, Spring Boot, MongoDB, WebSockets, JWT
- Architected a full-stack application to transform structured resume data into an immersive 3D environment, prototyping a novel method for user-data interaction.
- Built a real-time collaborative editing feature using WebSockets, allowing multiple users to interact and modify the underlying data model simultaneously.
- **Outcome:** Delivered a unique, proof-of-concept platform for personalized data representation, showcasing an experimental mindset and strong software engineering skills.

Real-Time Sensor Data Pipeline & IoT System

Jun 2025 – Jul 2025

- **Tech Stack:** C++, ESP8266, Firebase, ESPAsyncWebServer
- Designed and built an autonomous system to monitor and act on environmental data, demonstrating skills in rapid prototyping and hardware-software integration.
- Implemented a cloud-based data ingestion pipeline, logging real-time sensor telemetry to Firebase for remote monitoring and analysis.
- **Outcome:** Created a fully functional proof-of-concept that improved resource efficiency, showcasing the ability to build end-to-end data-driven systems.

TECHNICAL SKILLS

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

AI/ML: Scikit-learn, TensorFlow, Keras, Prompt Engineering. *Familiar with RAG Architectures, LangChain, LLM APIs.*

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

Databases & Data Stores: MongoDB, Firebase, Redis

Developer Tools: Git, Docker, Postman, BeautifulSoup, Agile Methodologies