

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 with comprehensive debugging and error handling for **menticate.com**.
- Implemented real-time chat API integration and site-wide dark theme functionality, resolving cross-browser compatibility issues and optimizing performance by 25%.
- Deployed i18next internationalization library in **vedichealings.com** Next.js codebase, fixing locale-specific bugs and launching Spanish language support.
- Reduced project timeline overruns by 20% through systematic bug identification, root cause analysis, and implementation of automated testing strategies in Agile environment.

PROJECTS

Interactive 3D Resume Builder

Feb 2025 – May 2025

- Tech Stack:** React, Three.js, MongoDB, Spring Boot, WebSockets, JWT
- Architected full-stack application with complex 3D rendering pipeline, implementing comprehensive error handling and debugging mechanisms for cross-platform compatibility.
- Developed secure authentication system with JWT tokens, real-time collaboration via WebSockets, and auto-save versioning with conflict resolution algorithms.
- Implemented unit and integration test suites, achieving 85% code coverage and resolving memory leaks in 3D rendering engine through systematic profiling and optimization.

Wikipedia Path Finder

Oct 2024 – Dec 2024

- Tech Stack:** Python, Flask, BeautifulSoup, Redis, MongoDB, Docker
- Developed backend service with robust error handling for Wikipedia page traversal, implementing loop detection algorithms and dead-end recovery mechanisms.
- Integrated Redis caching layer and Docker containerization, debugging memory optimization issues and implementing comprehensive logging for production monitoring.
- Achieved 80% runtime optimization through systematic performance profiling, bug identification in parsing logic, and implementation of efficient caching strategies.

IoT Automatic Plant Watering System

Jun 2025 – Jul 2025

- Tech Stack:** ESP8266, Firebase, C++, ESPAsyncWebServer
- Designed autonomous IoT system with comprehensive error handling for sensor failures, network disconnections, and cloud service interruptions.
- Implemented secure token-based authentication with Firebase, debugging real-time data synchronization issues and establishing reliable telemetry logging.
- Created modular architecture with extensive debugging capabilities, achieving 20% improvement in water conservation through systematic testing and calibration.

TECHNICAL SKILLS

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

Frameworks & Libraries: React, Next.js, Node.js, Spring Boot, Flask, Three.js

Databases & Caching: MongoDB, Firebase, Redis

Developer Tools: Git, Docker, Postman, BeautifulSoup, ESPAsyncWebServer

Testing & Development: Unit Testing, Integration Testing, JWT Authentication, WebSockets

Machine Learning: TensorFlow, Keras, scikit-learn, Matplotlib