Yash Agarwal

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EDUCATION

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

EXPERIENCE

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

– Collaborated with stakeholders to define requirements for a full-stack Applicant Tracking System (React, Node.js, MongoDB), reducing manual candidate processing time for recruiters.
– Engineered a real-time chat feature using WebSockets and Node.js; improved system reliability and observability by implementing server-side message persistence and monitoring.
– Enhanced accessibility for Spanish-speaking users by integrating i18next into a Next.js codebase for **vedichealings.com**, adding runtime language switching and unit tests.
– Improved team efficiency by establishing pre-merge CI checks and standardizing story sizing, contributing to a 20% reduction in delivery overruns and enhancing sprint predictability.

PROJECTS

IoT Automatic Plant Watering System *Jun 2025 – Jul 2025*

– **Tech Stack:** ESP8266, Firebase, ESPAsyncWebServer, C++
– Developed embedded firmware for ESP8266 to sample soil-moisture sensors, and trigger actuators with debounce and fail-safe logic to ensure system safety and prevent overwatering.
– Secured Firebase telemetry ingestion using token-based authentication and built reconnection logic to handle intermittent Wi-Fi, improving data reliability.
– Created a lightweight web portal for Wi-Fi provisioning and remote control, resulting in a 20% increase in watering efficiency during field trials.

Interactive 3D Resume Builder *Feb 2025 – May 2025*

– **Tech Stack:** React, Three.js, MongoDB, Spring Boot, WebSockets
– Architected a React and Three.js front end to render data in an interactive 3D scene, applying level-of-detail culling to maintain a high frame rate under load.
– Addressed complex concurrency challenges by building a Spring Boot API with JWT authentication and optimistic locking, preventing data conflicts from simultaneous edits.
– Enabled real-time multi-user collaboration via WebSockets, engineering an auto-save feature with event monitoring to ensure data synchronization and improve usability.

Wikipedia Path Finder *Oct 2024 – Dec 2024*

– **Tech Stack:** Python, Flask, BeautifulSoup, Redis, MongoDB, Docker
– Demonstrated knowledge of CS fundamentals by applying graph traversal algorithms (BFS) and loop detection to create a Flask service that finds the first-link path between Wikipedia pages.
– Leveraged Redis caching for computed paths and Dockerized the service for repeatable deployment; added integration tests to ensure code quality and reliability.
– Achieved an 80% reduction in average pathfinding runtime by optimizing parsing and caching strategies, significantly improving user response times and lowering compute costs.

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, TypeScript, C++
Frameworks & Libraries: React, Next.js, Node.js, Spring Boot, Flask, scikit-learn, TensorFlow, Keras, BeautifulSoup
Databases & Storage: MongoDB, Firebase, Redis
Developer Tools & Platforms: Git, Docker, Postman, Matplotlib