

# Yash Agarwal

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## EDUCATION

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### Graphic Era Hill University

*B.Tech. in Computer Science & Engineering, Honors in ML & AI*

Uttarakhand, India

*Aug 2023 – July 2027*

## PROJECTS

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### Interactive Resume Maker

- Full-stack application with React and Three.js to visualize resumes in a real-time 3D forest UI.
- Integrated secure user authentication using JWT and BCrypt with MongoDB-based session handling.
- Auto-save, versioned resume edits, and real-time collaboration pipeline using WebSockets.

### IoT Plant Watering System

- Engineered an autonomous soil moisture monitoring system using ESP8266 microcontroller and threshold-triggered pump.
- Built secure web configuration portal with ESPAsyncWebServer.
- Logged telemetry data in Firebase, resulting in a 20% increase in data-driven insights for optimizing plant watering schedules.
- Token-authenticated data logging; designed for power efficiency and modular upgrades.

### First Link Rule (Frontend)

- Vue.js app to show Wikipedia traversal paths returned by backend API.
- Fetched data using Axios; rendered results with list and minimal interactivity.
- Styled using Tailwind CSS for a clean, responsive layout.

### First Link Rule (Backend)

- Developed Flask-based backend that recursively parses Wikipedia articles using BeautifulSoup (preferred over Scrapy to reduce memory and runtime usage by 80%).
- Implemented dead-end/loop detection with max traversal limits; persisted results in MongoDB.
- Cached frequent API responses with Redis and containerized services using Docker.
- Deployed stateless REST architecture on AWS Lambda for cost-efficient scale.

## SKILLS

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### Technical Skills

- **Programming Languages:** Java, C/C++, Python, JavaScript, TypeScript
- **Frameworks & Libraries:** React, Vue.js, Tailwind CSS, Three.js
- **Backend & APIs:** Node.js, Express, Flask, RESTful Services
- **Databases & Storage:** MongoDB, PostgreSQL, Firebase, Redis
- **Tools & Platforms:** Git, Docker, AWS Lambda, Unix/Linux, Puppeteer, BeautifulSoup

### Analytical Skills

- Data Analysis, Statistical Modeling, Data Visualization, A/B Testing

### Soft Skills

- Communication, Problem-solving, Teamwork, Agile Collaboration

## CERTIFICATIONS

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AWS Certified Cloud Practitioner

AWS Solutions Architect – Associate

Google Cloud Associate Cloud Engineer