Ayush Raj

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SKILLS

Languages:	C++, Python, JavaScript, PHP
Tools/Platforms:	Git, AWS, Docker, Kubernetes, Linux
Frameworks:	React js, Express js, Tailwind CSS, Redux Toolkit
Databases:	MongoDB, SQL
Soft Skills:	Problem-Solving, Team Player, Project Management, Adaptability

TRAINING

Cipher Schools (Edtech Company)   Jun' 24 – Jul' 24
Full-Stack Web Development (MERN Stack)
- Built and deployed full-stack web applications using MongoDB, Express.js, React.js, and Node.js, incorporating **RESTful APIs** and **JWT** authentication.
- Designed and developed responsive **UIs** with **React.js** and integrated **MongoDB** for efficient data management.
- Gained experience in version control with **Git**, and deployment using platforms like **Heroku** and **Netlify**.

PROJECTS

Adaptive Traffic Management System | *Python, YOLO, OpenCV*   Jan' 25
- Developed an **AI-powered traffic signal optimization system** using **machine learning algorithms** to adjust signal timings based on real-time vehicle density and traffic flow predictions.
- Integrated **computer vision (YOLO)** for real-time vehicle detection and **accident risk prediction** at intersections.
- Applied **reinforcement learning** to dynamically adapt signal timings and optimize traffic flow, reducing congestion and improving intersection safety.
- **Impact:** On average, adaptive signal control technologies improve travel time by more than **10%**. In areas with outdated signal timing, improvements can be **50%** or more.

Med Connect | *MERN, JWT*   Oct' 23
- Designed and developed a comprehensive online doctor consultation app using **ReactJS** for the frontend and **Node.js** with **Express.js** for the backend.
- Implemented features such as **patient record management**, **appointment scheduling**, and **doctor-staff managemen**t, enhancing operational efficiency and user convenience.
- Utilized **MongoDB** as the database for secure storage of patient records, medical history, and appointment details and **Cloudinary** for image storage.
- Integrated **JWT-based authentication** for secure user access and implemented **Bcrypt** for password hashing with robust **role-based access control** for administrators, doctors, and patients.

CI/CD Pipeline with Jenkins, Ansible, Docker, Kubernetes   Sept' 24
- **Built a CI/CD pipeline** using **Jenkins** to automate the build, test, and deployment processes for a web application, integrating **Docker** and **Kubernetes** for container orchestration, scalability, and high availability.
- Automated **infrastructure provisioning on AWS** with **Ansible** for seamless deployment and efficient cloud resource management.

CERTIFICATES

• Online certification in Cloud Computing | NPTEL   Dec' 24
• Online certification in Operating System and DBMS | NPTEL   Apr' 24
• Getting Started with AI and Machine Learning | LinkedIn Learning   Feb' 23

EDUCATION

Lovely Professional University   **Phagwara, Punjab**
Bachelor of Technology in Computer Science & Engineering (CGPA – 7.96)   Pursuing

Bradford International School   **Patna, Bihar**
Intermediate   Mar' 20 – May' 21
CBSE (Percentage – 82.8%)

Oasis Residential Public School   **Hajipur, Bihar**
Matriculation   Mar' 18 – May' 19
CBSE (Percentage – 93.2%)