AYUSH SINGH RATHORE

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EDUCATION

SRM University   Andhra Pradesh, India
B.TECH in Computer Science and Engineering   Oct 2021 - Jun 2025

TECHNICAL SKILLS

Programming Languages:	C/C++, TypeScript, Java, JavaScript, SQL, Python, Solidity
Development:	Blockchain, Nodejs, REST-API, FastAPI, ReactJs, HTML5/CSS3, Tailwind CSS, Express, mongoose
Database:	MongoDB, MySQL, SQL Server, PostgreSQL, Redis
Machine Learning:	NLP, Langchain, Numpy, PyTorch, Pandas, Tensorflow, YOLOv8
Tools & OS:	Git, Postman, Google Colab, Docker, nginx, AWS, Linux, SDLC, CI/CD Pipelines
Academic Coursework:	Design Patterns, Data Structures & Algorithms, DBMS, Operating System, Computer Network

WORK EXPERIENCE

Frontend Developer & Machine Learning Intern @CheckExplore   Mumbai, India
Tyre X-Ray | FastAPI, Tailwind CSS, React, YOLOv8, Python, Git   Oct 2024 – Nov 2024

- Collaborated on the Tyre X-Ray project, an online tool to detect defects in tyres at manufacturing stage, reducing inspection time for manufacturers by 65% as per the survey done by the company.
- Pioneered an AI/ML model for tire X-ray images, then built the web application front-end with FAST-API integration, decreasing inspection bottlenecks, leading to a 20% enhancement in code quality and elevated website performance.
- Evaluated 2 types of body defects in tyres, significantly enhancing model accuracy through labeling and training.

Campus Automation Student Lead @SRM University   Andhra Pradesh, India
Outpass Booking System | React, Node.js, PostgreSQL, Git, CSS   Mar 2023 – Sep 2023

- Spearheaded campus automation, a groundbreaking initiative aimed at automating the University's tasks, resulting in a 90% reduction in task completion time and significantly streamlined University operations.
- Enhanced the UI/UX of the employee portal using React and CSS, incorporating modern design principles and interactive features, leading to a 30% increase in user satisfaction and significantly reducing onboarding time for new employees.
- Applied a secure JWT auth-based solution for Out-pass Booking, streamlining the entire process & enhancing the security.

PROJECTS

Magic Chain | *Reactjs, Nodejs, express, MongoDB, Kubernetes, Web3, Git*

- Engineered a scalable blockchain-based rewards platform addressing transparency issues in traditional loyalty programs using secure, traceable transactions, with a Nodejs backend (Express) and React frontend.
- Upgrading the website architecture from monolithic to 3 microservices, enhancing scalability and maintainability.
- Integrated a chatbot to display wallet balance and transaction history, enhancing user engagement and accessibility.

Scanalyze | *Html, CSS, Nodejs, sqlite, TF-IDF, Javascript*

- Developed a document scanning and matching system with text similarity matching achieving 80%-90% accuracy using TF-IDF Cosine Similarity, allowing users to upload and scan documents for content similarity.
- Structured robust role-based authentication with JWT and a daily free credits system, efficiently managing over 1,000 document scans and 300 credit requests, significantly improving user experience and streamlining admin workflow.
- Designed an intutive dashboard with detailed analytics, activity logs & improving document matching latency by 60%.

Health Lens | *React, Fast API, Firebase, Python, Google-AI Studio*

- Transformed lung disease severity prediction using the existing Machine Learning model with the x-ray images trained dataset, a model to detect Covid-19 & Pneumonia by analyzing chest x-ray images for enhanced diagnosis accuracy.
- Utilized advanced architectures such as ResNet 18 and Convolutional Neural Networks (CNN), creating two distinct classes for precise disease detection and classification, improving accuracy and model performance.
- Constructed the user interface, integrated the model, and successfully implemented the firebase authentication system.

EXTRACURRICULARS

- Served as a member of the Academic Council at the University, fostering collaboration and boosting student engagement by 40% & redesigned curriculum across 3 schools, ensuring 100% implementation and alignment with industry standards.
- Organized the first National-level Technical & Cultural fest of the University, with footfall over 7000 attendees.
- Mentored 100+ students towards making contributions in Blockchain as part of a QS awarded, student-run community.

ACHIEVEMENTS

- **ETHIndia Hackathon:** Secured a track prize in a international level hackathon for designing an innovative decentralized informal lending and borrowing platform, showcasing advanced technical skills.
- **Merit-Based Scholarship:** Received a 100% merit-based scholarship at SRM University based on my performance in SRMJEE.