Harshal Singh Vats

Software Engineering Intern | Backend & Applied ML

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EDUCATION

Sarala Birla University — Ranchi, Jharkhand
Bachelor of Computer Applications — *Aug 2023 – Jul 2026*

EXPERIENCE

Artificial Intelligence Research Intern — Remote
JustTutors — *Jun 2025 – Aug 2025*

– Built a virtual tutoring system integrating speech-to-text, text-to-speech, and content delivery APIs to enable interactive learning.
– Implemented backend APIs in Python for response generation, improving system reliability by 40%.
– Worked cross-functionally with educators and engineers to align pedagogy with system design, achieving 65% positive pilot feedback.

Full Stack Developer Intern — Remote
EdEarn — *Mar 2025 – Jun 2025*

– Designed and developed responsive frontend interfaces contributing to end-to-end platform delivery.
– Used AI-assisted tooling to accelerate development workflows, reducing delivery time by 20 hours.
– Built RESTful APIs using Node.js and MongoDB, optimizing query performance by 30% and lowering database hosting costs.

PROJECTS

mlweb | Python, Flask, React, Scikit-Learn, EDA | GitHub | Live Demo

– Developed a no-code full-stack platform enabling users to build machine learning models via a web interface.
– Improved model-building efficiency by 50% through optimized data preprocessing pipelines.
– Implemented data visualization for exploratory analysis using Seaborn and Matplotlib.

Weblante | React, Node.js, Safe Browsing API, Hugging Face, Browser Extensions | GitHub

– Developed a real-time browser extension for content safety and website classification.
– Achieved 70% classification accuracy on unknown websites using hybrid rule-based and ML analysis.
– Integrated on-device image classification models to reduce server latency by 40%.

Disease Prediction Model | Python, Scikit-Learn, Streamlit | GitHub | Live Demo

– Built a machine learning system to classify user health conditions from input parameters.
– Achieved 88% prediction accuracy with real-time inference support.

LEADERSHIP & INVOLVEMENT

Head of Machine Learning Club — Ranchi, India
Google Developer Group on Campus – SBU — *Oct 2024 – Jun 2025*

– Led ML initiatives and workshops for 100+ students across multiple sessions.
– Mentored 20+ students entering the machine learning domain through structured learning paths.

TECHNICAL SKILLS

Languages: Python, C, C++, JavaScript, Golang, MySQL, HTML, CSS
Computer Science: Data Structures & Algorithms, OOP, Operating Systems, DBMS
Frameworks: React, Node.js, Flask, Express, FastAPI
Libraries: pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn
Domains: Artificial Intelligence, Full-Stack Development, Machine Learning Systems