Harustat Kaur

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Passionate Computer Science student with a strong foundation in full-stack development, machine learning, and cybersecurity. Proficient in JavaScript and Python, with hands-on experience building scalable web applications and ML-based threat detection systems. Eager to apply technical expertise to solve real-world problems and contribute to impactful, innovative solutions.

Education

B.E. in Computer Engineering	Thapar Institute of Engineering & Technology	CGPA: 7.43	2022–2026
Class XII	Sacred Heart Convent School	Score: 89%	2022
Class X	Sacred Heart Convent School	Score: 89.6%	2020

Skills

Languages: C, C++, HTML/CSS, JavaScript, Python, R, SQL
Developer Tools: VS Code, Matlab, Git, Google Colab, Postman
Frameworks: React,js, Node.js, Express.js, FastAPI, Tailwind CSS, REST APIs
Databases & Libraries: MySQL, MongoDB, JWT, bcrypt, Pandas, NumPy, Keras, Scikit-Learn, TensorFlow, OpenCV
Relevant Coursework: Data Structures and Algorithms, Operating Systems, Computer Networks, Database Management Systems, Cyber Security, Machine Learning

Experience

Capstone Member – Deloitte US Capstone Program   Mar 2025 – Present
CyberShield: ML & Quantum-Based APT & DoS Attack Detection

- Developing a hybrid **ML and quantum** system for attack detection, targeting a **30% reduction in false positives and a 15% increase in accuracy**.
- Developing a novel hybrid classical-quantum algorithm, boosting **threat classification accuracy by 25% and cutting detection time by 30%**.
- Integrating **real-time traffic monitoring** with a visualization dashboard targeting to **improve response time efficiency by 40%**.
- Tech Stack: Python, PyTorch, Scikit-Learn, Qiskit, React.js, Flask/Django, TensorFlow, Pandas, NumPy

Projects

WebEase: No-Code Content Management System for Website Creation   GitHub

- Developed a featured content management system using MERN stack, **reducing website creation time by 50%.**
- Implemented authentication and role-based access, optimizing **CRUD operations for 30% faster data retrieval**.
- Tech Stack: Node.js, Express.js, MongoDB, Postman

VisionAid: AI-Powered Cataract Detection   GitHub

- Designed a **Convolutional Neural Network model** to classify images into cataract and non-cataract categories.
- Achieved **95% validation accuracy** by fine-tuning EfficientNetB0 with custom layers (80/20 train-test split).
- Tech Stack: Python, TensorFlow, Keras, EfficientNetB0

Scatch: E-commerce backend with Authentication and Product management   GitHub

- Developed a scalable backend for a shopping app, supporting **100+ users with 40% improved performance**.
- It features secure JWT/bcrypt authentication and optimized **CRUD operations by 20% faster queries**.
- Tech Stack: Node.js, Express.js, MongoDB, Postman

Certifications

Cyber Security & Information Security	Jan 2025
Python Fundamentals	Jan 2024
Web Development Fundamentals	July 2023

Positions Of Responsibility

Publicity Volunteer Member, SATURNALIA, TIET   Sep 2023 – May 2024

- Collaborated with **15 event organizers and 25 volunteers** to ensure the timely delivery of design deliverables for the UI/UX Case Study Event - HARMONY.