

# Harustat Kaur

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## Education

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### Thapar Institute of Engineering and Technology

Bachelor of Engineering in Computer Engineering

Sep 2022 – May 2026

7.43 CGPA

### Sacred Heart Convert School

Class XII

Feb 2021 – May 2022

89%

### Sacred Heart Convert School

Class X

Feb 2019 – May 2020

89.6%

## Technical Skills

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**Languages:** C, C++, HTML/CSS, JavaScript, Python, R, SQL

**Developer Tools:** VS Code, Matlab, Git, Google Colab

**Frameworks:** NodeJs, ExpressJs, Tailwind CSS

**Databases:** MySQL, MongoDB

**Libraries:** Pandas, NumPy, TensorFlow, OpenCV

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Computer Networks, Database & Management Systems, Software Engineering, Cyber Security, Artificial Intelligence, Machine Learning.

## Experience

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### 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.

### Sports Team Member

ATHLETICS MEET, SHCS

Aug 2020 – May 2022

- Contributed 10+ creative ideas and executed 5+ design projects in alignment with the event's theme, enhancing visual appeal and participant engagement.

## Projects

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### CyberShield: ML-Based APT & DoS Attack Detection

- Develop an ML system to detect and classify DoS attacks (DNS, NTP, SQL) and APTs (data exfiltration, reconnaissance, compromise).
- Design novel ML algorithms for improved threat detection.
- Evaluate performance using accuracy, precision, F1-score, training time, and inference time.

### **Cataract Detection| Tensor Flow, CNN**

- Built a convolutional neural network (CNN) model for binary classification of medical images into cataract and non-cataract categories.
- Trained the model on two datasets with a combined total of 10,000 images, split into 80% training and 20% validation.
- Fine-tuned a pre-trained EfficientNetB0 model with custom layers, achieving a validation accuracy of 95% Accuracy.
- Employed data augmentation techniques to increase dataset diversity, reducing overfitting.

### **Scatch| MongoDB,Express.js,Node.js**

- Built a backend system for a premium shopping application that allows users to add, update, and delete both users and products seamlessly.
- Developed using Node.js, Express.js, and MongoDB, ensuring a scalable and robust backend architecture.
- Integrated user authentication, product management, and CRUD operations for efficient product and user handling.

### **WebEase| MongoDB,Express.js,Node.js**

- Developed a fully functional content management system (CMS) leveraging the MERN stack.
- Created customizable templates enabling users to build responsive websites without coding knowledge.
- Designed and implemented features for user authentication, data management, and real-time updates for a seamless and secure experience.
- Reduced website creation time by 50%, empowering small businesses and creators to launch websites efficiently.

### **Real-Time People Counting System| OpenCV**

- Developed a real-time people counting system using OpenCV for video input.
- Built a computer vision model to detect and track people in a scene, ensuring accurate counting.
- Achieved **95% accuracy** in counting people, contributing to applications in crowd monitoring, security, and analytics.

### **Family Golf Website | HTML, CSS, JavaScript**

- Engineered and launched a family golf website using HTML, CSS, and JavaScript; enhanced user engagement by 40 percent and reduced bounce rate by 25 percent through responsive design and intuitive navigation.

### **Amazon Clone| HTML, CSS**

- Developed a replica of the Amazon e-commerce platform using HTML and CSS, enhancing front-end development skills.
- Created 20+ product listing pages, ensuring accurate layout and design consistency.

## **Accomplishments**

Participated in ACM Hackathon

Participated in Amazon Hackathon