

# Hriteek Roy

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## EDUCATION

### ICFAI University

Bachelor of Technology in Computer Science and Engineering - **CGPA - 9.4**

Kamalgat, Tripura

Aug. 2021 – May 2025

## EXPERIENCE

### Deep Learning and ML Intern

National Institute of Technology

May 2024 – August 2024

Durgapur, West Bengal

- **Created** an **Image Caption Generator** using **Transformers** and **LSTM**, achieving 85% accuracy on **Flickr8k** dataset with optimized CNN-based feature extraction.
- Trained on **8,000+ images**, improving caption fluency by **30%** using a Transformer-based model, and reduced training time by **20%** through data augmentation.
- Implemented targeted visual analytics via Matplotlib; findings revealed key areas for improvement that fixed three major issues affecting output quality, directly enhancing user satisfaction across all interactions with the model.

### Machine Learning Intern

Tripura Institute of Technology

May 2023 – July 2023

Khayerpur, Agartala

- **Developed** a Movie Recommendation System using TMDb API, improving movie suggestions by 75% through Cosine Similarity for user preferences.
- Cleaned and preprocessed **50,000+ movie records** using **Pandas**, achieving **90% data accuracy** and enhancing model precision.
- **Enhanced** similarity scores, increasing recommendation relevance by 40% using **Scikit-learn** algorithms and feature engineering.

## PROJECTS

### MyShop | React, MongoDB, Redis, Cloudinary, Axios, Express, Node.js

October 2024

- **Constructed** a full-stack E-Commerce Store with React, Node.js, MongoDB, and Stripe, enabling efficient CRUD operations and secure payments, resulting in a **10%** increase in transaction speed.
- Engineered robust admin features enabling efficient CRUD operations for managing product listings; streamlined inventory updates leading to a reduction in processing time by approximately **30** hours monthly.
- **Optimized** system performance by implementing Redis for caching and Cloudinary for image storage, reducing load times by **40%** and enhancing user experience.

### Ortus Finance | Next.js, Framer Motion, Vercel, Tailwind CSS, React, Git

October 2024

- **Constructed** a responsive, SEO-optimized website with Next.js and SSR, boosting SEO by **30%**.
- Integrated **interactive elements** and **animations**, improving engagement and reducing bounce rate by **20%**.
- **Enhanced** deployment on Vercel, achieving **99.9%** uptime and **50%** faster load times.

### ChatWiz | React, Socket.IO, MongoDB, Express, Node.js, JWT, Zustand, Tailwind CSS,

May 2024

- **Engineered** a real-time chat app with React, Socket.IO, MongoDB, achieving **99%** uptime and **200ms** latency.
- **Accelerated** instant message updates with Zustand, achieving **30%** faster load times.
- Implemented **JWT authentication** and **persistent chat history**, supporting **500+ active users** and **10,000+ daily messages**.

### MaskOn | Tensorflow, OpenCV, Imutils, Numpy, MobileNetV2

September 2023 – October 2023

- **Created** a real-time face mask detection system using TensorFlow and OpenCV, achieving **98.86%** accuracy on training data and **96.19%** on test data.
- **Implemented data augmentation** (690+ images increased to 2751) to improve model robustness, enhancing generalization and reducing overfitting.
- **Improved** face detection with **Haar Cascade Classifiers**, enabling precise real-time mask classification through webcam, with **95%** confidence in predictions.

## TECHNICAL SKILLS

**Languages:** TypeScript, Python, C/C++, SQL (Postgres), Java, JavaScript, HTML/CSS, Rust

**Frameworks:** React, Node.js, Next.js, Express, Vite, Material-UI

**Developer Tools:** Git, Google Colab, Render, Vercel, VS Code, Jupyter Notebook, PyCharm, Github, Postman, Eclipse

**Libraries:** Socket.io, shadcn, MongoDB, Redis, Zustand, Axios, Tensorflow, OpenCV, NumPy, Matplotlib