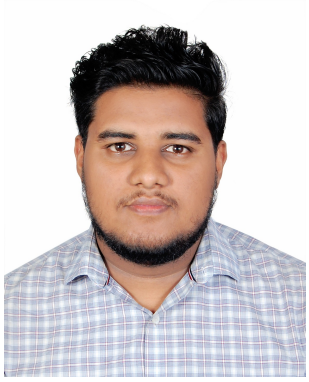
Asfar Hossain Sitab



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Objective

Motivated BSc final-year student in Computer Science and Engineering with a strong interest in Artificial Intelligence, Machine Learning, and software development. Passionate about research and practical applications, with hands-on experience in software development, AI/ML model implementation, and applied research. Eager to contribute innovative solutions and enhance technical expertise while growing as a versatile professional in both research and industry environments.

Education

East West University — BSc in Computer Science and Engineering **2022 – Present**
Current CGPA:3.70

St. Gregory High School and College — HSC **2019 – 2020**
GPA: 5.00 — Science Group

Trust School — SSC **2016 – 2018**
GPA: 5.00 — Science Group

Skills

Programming & Tools:	C, Java, Python, PyTorch, TensorFlow, OpenCV, YOLO, SQL, HTML/CSS, LaTeX
AI/ML Specializations:	Deep Learning, Computer Vision, Object Detection, Instance Segmentation, SSL, XAI
Software & Platforms:	Kaggle, Google Colab, GitHub, VS Code, Microsoft Office Suite, Draw.io
Research Skills:	Data Analysis, Model Deployment, Technical Communication, Problem Solving

Recent Projects (2024-2025)

Surgical Anatomy Instance Segmentation

Technologies: Python, PyTorch, YOLOv8/v12, OpenCV, Computer Vision

- Developed multi-model instance segmentation system for Dresden Surgical Anatomy Dataset

- Preprocessed 512×512 laparoscopic images using intensity transformations and spatial filtering
- Implemented YOLOv8 and YOLOv12 for precise segmentation of 11 abdominal structures
- Achieved accurate detection of complex anatomical features for surgical assistance applications

Fish Detection with Self-Supervised Learning

Technologies: Python, SSL, SimCLR, DINOv3, MoCo v2, Pseudo-labeling

- Implemented comprehensive SSL pipeline for SylFishBD dataset classification
- Applied contrastive learning (SimCLR, MoCo v2) and knowledge distillation (DINOv3)
- Designed two-phase training strategy with pretraining and fine-tuning stages
- Demonstrated effectiveness of SSL approaches with reduced labeled data requirements

Car Damage Severity Classification Benchmark

Technologies: Python, TensorFlow, VGG16/19, ResNet50/101, MobileNetV2, DenseNet121, Grad-CAM

- Conducted comparative analysis of 8 CNN architectures for damage classification
- Achieved 73.3% accuracy with MobileNetV2 (best performer) on 3-class severity task
- Implemented explainable AI with Grad-CAM for model interpretability
- Provided deployment recommendations: MobileNetV2 for edge, VGG16 for server applications

Previous Projects

Fruit Quality Classifier — Data Science / Machine Learning

Technologies: Python, TensorFlow, Scikit-learn, XAI Techniques

- Developed multi-class fruit quality classification using 10+ deep learning models
- Implemented SHAP and LIME for model interpretation and visualization

EWU_CLUB_HUB — Full Stack Developer

Technologies:HTML,CSS,JS Node.js,MongoDB

- Created university club management platform with event and member management
- Developed notification system for events and announcements

Quick Bite — Food Delivery App — Full Stack Developer

Technologies: HTML,CSS,JS Node.js, MongoDB

- Built cross-platform food ordering app with real-time tracking
- Designed intuitive UI for menu browsing and order placement

Ongoing Research

Anomaly-Based Deep Learning Framework for Zero-Day Attack Detection

Technologies: Python, PyTorch, Network Security, Anomaly Detection **Ongoing**

- Developing framework for detecting unseen cyber-attacks using deep learning
- Implementing anomaly detection on network traffic data

Achievements & Scholarships

- **Dean's Scholarship** — 4th Year, East West University (2025-2026)
- **Trustees Scholarship (100% Tuition Fee)** — East West University (2022-2026)
- **Merit Medals (Medha Lalon)** — East West University (2022-2025)
- **Talent Pool Scholarship** — Class 5 (2012)

Extracurricular Activities

- **Debater:** National-level debates broadcasted on BTV
- **Chess Player:** 1st position in inter-college competition
- **Member:** Robotics Club, East West University

Languages

- **Bangla:** Native proficiency
- **English:** Professional proficiency