

TANMOY SAMANTA

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SKILLS SUMMARY

- **Programming:** Python , C , Java
- **Computer Vision:** OpenCV, real-time video processing, object detection (YOLO – inference), OCR (Tesseract)
- **CV Pipelines:** Frame-by-frame processing, ROI-based analysis, detection post-processing
- **System Logic:** Event-driven control flow, rule-based decision layers, state-change detection
- **Data & Tools:** NumPy, Pandas, Git, GitHub
- **Web Technologies (Basic):** HTML, CSS, JavaScript

PROJECTS

EchoSight — Real-Time Computer Vision System | [LINK](#)

December 2025 – January 2026

- Developed a real-time computer vision application using OpenCV and YOLO to detect objects from live webcam input.
- Implemented heuristic depth estimation based on bounding-box size to approximate object proximity.
- Designed rule-based navigation logic to generate spoken alerts only when scene risk changes.
- Integrated on-demand printed text recognition using Tesseract OCR, triggered via user input, with audio feedback using text-to-speech.
- Focused on system integration, event-driven control flow, and prioritization between navigation alerts and OCR output.

Real-Time Face Recognition System | [LINK](#)

December 2025 – December 2025

- Built a modular real-time face recognition system using live camera input, supporting known and unknown identities.
- Designed an end-to-end pipeline for face detection, feature comparison, identity storage, and dashboard visualization.
- Implemented unknown face handling by logging unrecognized identities instead of forcing closed-set classification.
- Structured the codebase into reusable modules for detection, database handling, and UI components.

EDUCATION

Asutosh College, University of Calcutta

Kolkata, West Bengal

Bachelor of Science (Hons.), CS

August 2022 – July 2026

Shyam Sundarpur Patna High School

East Medinipur, West Bengal

X – 89% | XII – 91.8%

January 2014 – March 2022

CERTIFICATES & ADDITIONAL EXPERIENCE

Full Stack Web Development (Delta Program) | [LINK](#)

August 2023 - February 2024

Completed hands-on coursework covering frontend development with **HTML**, **CSS**, and **JavaScript**, backend fundamentals using **Node.js** and **Express**, and basic database operations with MongoDB. Gained experience building simple end-to-end web applications, handling client-server communication, and using Git for version control.

Volunteer | Fundamentals First Program (CRY, Kolkata)

January 2026 – Present

Currently teaching English to underprivileged Class VI students in government schools, designing engaging lesson plans and supporting learning outcomes through regular classroom sessions.

Workshop: Data Analytics and Machine Learning |

May 2023

St. Xavier's University, Kolkata — workshop covering introductory ML concepts and data analysis workflows.