

SATYAM SAMANTA

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PROFESSIONAL SUMMARY

Final-year Computer Science Engineering student specializing in AI/ML pipelines, Deep Learning, and Full-Stack Web Development. Seeking Software Development Engineer (SDE) or Machine Learning roles to build scalable, data-driven products.

TECHNICAL SKILLS

Languages: Python, C, C++, Java, JavaScript, TypeScript, SQL

AI / ML & Data Science: TensorFlow, Scikit-learn, OpenCV, Pandas, NumPy, Matplotlib, Seaborn

Full-Stack Web: HTML5, CSS3, React, Next.js, Node.js, Express.js, FastAPI, Tailwind CSS, PostgreSQL, REST APIs

Developer Tools & Platforms: Git/GitHub Actions, Hugging Face Spaces, Postman, Firebase, Supabase, Vercel, Coppeliasim

PROJECTS

RealityGuard AI: Multi-Signal Deepfake Detection Engine

Mar 2026 – Aug 2026

Python | PyTorch | MTCNN | FastAPI | React | TypeScript

GitHub

- Architected a multi-signal forensic pipeline (PyTorch, MTCNN) trained on **34,800+** video samples, achieving **97.42%** detection accuracy by simultaneously correlating **5** distinct data streams (CNN spatial artifacts, blink EAR, temporal lip-sync).
- Built an asynchronous FastAPI/React pipeline handling **500MB** payloads with sub-millisecond caching, published as *"RealityGuard AI: A Multi-Signal and Explainable Deepfake Detection Engine"* (AITA 2026, Springer).

EcoScrap Pickup - AI-Based E-Waste Collection System (Patent Pending)

Oct 2025 – Present

React | TypeScript | Node.js | PostgreSQL | TensorFlow | OpenCV | Coppeliasim

- Architected a comprehensive **AI-powered e-waste management system** (product) integrating a MobileNetV2 CNN, delivering **~90–95% classification accuracy** across 9 categories with <100ms inference to eliminate manual sorting errors.
- Built a full-stack web platform supporting **100+ concurrent users** with 99.9% uptime, integrating **Coppeliasim-based autonomous drone simulation** with **real UAV hardware** for end-to-end e-waste logistics, filed a **provisional patent**. (App No. 202641045009).

AI-Powered Heart Health Decision Support System

Apr 2026 – May 2026

Python | TensorFlow | Scikit-learn | VGG19 | MobileNetV2 | HHO | FastAPI | React | Hugging Face Spaces

GitHub

- Engineered a **multi-model soft voting ensemble** (SVM, Random Forest, Gradient Boosting) analyzing 12,800+ PCG images, achieving **96.38% accuracy**, **0.9916 AUC-ROC**, and ~500ms inference speed.
- Developed an end-to-end FastAPI pipeline integrating **Harris Hawks Optimization (HHO)** to **reduce feature dimensions by 71.4%** (from 1,792 to 512), boosting computational efficiency for real-time Hugging Face Space deployment.

EXPERIENCE

Freelance Software Developer

May 2026 – Jun 2026

SLAY AI - (Fashion E-Commerce Platform) | Remote

- Designed and launched **SLAY AI**, a serverless **AI-powered outfit curation platform** using **React 19, Deno, and Supabase Edge Functions**, serving real-time fashion recommendations from **10+ e-commerce platforms** across **8 occasion categories** with **P50 latency of 850ms** and integrated **affiliate monetization** via Cuelinks.
- Engineered a **weighted product scoring algorithm** with **budget-constrained combinatorial optimization** evaluating up to **1,728 outfit combinations per request**, instrumented **15+ GA4 events** across the full funnel and reduced API costs **~40%** through in-memory caching.

Artificial Intelligence & Machine Learning (AIML) Intern

Jun 2025 – Jul 2025

AICTE x Edunet Foundation | Bengaluru, Karnataka

- Developed a predictive machine learning pipeline using a Gradient Boosting Classifier to automate salary bracket classification for **48,000+ demographic records**, achieving an **85.43% accuracy rate**.
- Delivered a production-ready **Streamlit web interface** enabling HR users to generate instant, confidence-weighted predictions and process mass data via CSV uploads, **significantly reducing manual evaluation time**.

EDUCATION

MVJ College of Engineering, Bengaluru, Karnataka

Oct 2023 – Present

Bachelor of Engineering - Computer Science and Engineering | GPA: 8.53/10

PATENTS & PUBLICATIONS

- A System for Electronic Waste Pickup and Method Thereof** · Application No. 202641045009 · Filed: Apr 8, 2026 · Status: Provisional Patent Pending.
- RealityGuard AI: A Multi-Signal and Explainable Deepfake Detection Engine** · Presented at AITA 2026 · Accepted for Publication in Springer Lecture Notes in Networks and Systems (LNNS).

AWARDS & ACHIEVEMENTS

- Secured 2nd Place in Enigma at NIT Trichy** - a national case study challenge, delivering a complete real-world solution in 90 minutes.
- Ranked 3rd as Campus Ambassador (IIT Guwahati)** - earned a **Letter of Recommendation** for driving high-impact campus engagement.
- Design Lead at GDG MVJCE** - spearheading creative strategy, UI/UX initiatives, and visual communications for the campus tech community.

CERTIFICATIONS

- Introduction to Responsible AI | Introduction to Large Language Models | Introduction to Generative AI - Google Cloud Skills Boost
- Complete Figma Course: Web & Mobile Projects from Scratch - Udemy | Complete Python Technology Stack - Infosys SpringBoard