

SWARNAVA SARKAR

B.Tech CSE (AI & ML) | IoT & AI Developer

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EDUCATION:

Bachelor of Technology, Computer Science Engineering with specialization in AI & ML,
SRM Institute of Science and Technology, Kattankulathur.

(2024 – 2028)

CGPA: 9.97

SKILLS:

- **Programming Languages:** Python, C, C++, Java
- **Artificial Intelligence / ML / GenAI:** Scikit-learn, TensorFlow, Pytorch, NumPy, Matplotlib, Pandas, Machine learning fundamentals, data preprocessing, model training, AI-based detection systems, Classification & Prediction Systems.
- **Web & Full-Stack Development:** HTML, CSS, JavaScript, backend fundamentals, REST APIs
- **IoT & Embedded Systems:** ESP32, ESP8266, Arduino Uno, multiple sensors(humidity,temperature,pH,NFC, motion etc.), Wi-Fi modules, LoRa modules, Blynk and so on
- **Databases:** MySQL, SQL, PostgreSQL
- **Tools & Platforms:** Git, Github, Git Bash, Postman, VS Code, Notepad++, Jupyter Notebook, Trello, AutoCAD, MS Office, DaVinci Resolve

EXPERIENCE & TRAINING:

- **AI-ML Virtual Internship – Google for Developers (AICTE):** Data preprocessing, model training, evaluation, and exposure to real-world AI problem statements. (October 2025, December 2025)
- **Machine Learning with Python – IBM (Cognitive Class):** Supervised and unsupervised learning, regression, classification, clustering and prediction using real datasets. (Dec.2025, Jan.2026)
- **Generative AI Workshop – OpenAI Academy & NXTWAVE™:** Fundamentals of Generative AI, LLMs, and prompt engineering with practical use cases. (September 2025)
- **UROP Research Project (Ongoing) – SRMIST:** AI-based environmental monitoring and early-risk detection under Dr. B. Vidhya B, Department of Computational Intelligence. (August 2025, Ongoing)
- **Academic & Technical Events – SRMIST:** Participation in AI/ML and sustainability-focused technical initiatives aligned with SDGs. (October 2025)

PROJECTS:

Autism Detection System for Early-Age Screening (Mumbai Hacks Hackathon)

- Built a machine-learning-based system for early autism detection using behavioral and developmental indicators.
- Implemented data preprocessing, feature extraction, and classification models in Python.

Smart Irrigation System (Techknow Competition Winner, SRM University)

- Designed an IoT-based precision irrigation system using ESP32 and environmental sensors.
- Automated water control using real-time soil and climate parameters(temp. and pH) with Wi-Fi monitoring.

AI-Driven Smart Traffic Signal System (UYIR Road Safety Tamil Nadu Govt. Hackathon – Grand Finalist)

- Developed an AI-enabled traffic signal system using camera-based traffic density analysis.
- Implemented dynamic signal timing and emergency override functionality.

FORESTNET – AI-Powered Forest Monitoring System (UROP Research Project, Ongoing)

- Developing an AI-driven forest monitoring and fire detection system using IoT and satellite data.
- Applying deep learning for environmental monitoring and disaster risk prediction.

Full-Stack Web Applications

- Built responsive web applications with backend integration and REST APIs.
- Implemented authentication, database connectivity, and scalable system design.

CERTIFICATIONS:

- AI-ML Virtual Internship, AICTE & Google for Developers (EduSkills)
- Machine Learning with Python by IBM (Cognitive Class)
- Generative AI Workshop by OpenAI Academy & NXTWAVE™
- Python Programming – Udemy
- C, C++, JAVA Programming – NPTEL & Udemy

LEADERSHIP & ACTIVITIES:

Member, PLACFVs (Placement Cell Volunteering Club), SRM University. (November 2025, Present)

LANGUAGES:

English | Hindi | Bengali | German