# Sudipta Bag

⚲ Chennai, Tamil Nadu ✉ bububag2@gmail.com ☎ 9896599448 in Sudipta Bag ⦿ sudiptabag2004

## Education

**SRM Institute Of Science and Technology** *Sept 2022 – present*
*B.Tech. in Computer Science and Engineering*
- GPA: 8.7/10
- **Coursework:** Data Structures and Algorithms, Operating Systems, DBMS, Computational Theory, Computer Architecture

## Skills

**Languages:** C++, Python, SQL
**Frameworks & Libraries:** React, Next.js, Flask, TailwindCSS, TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas
**Tools & Platforms:** Git, Docker, Jenkins, AWS, Firebase, DynamoDB, MySQL
**Core Skills:** Full Stack Development, Deep Learning, Data Analysis, Team Leadership, Communication

## Experience

**Data Science Intern** *June 2025 – July 2025*
*Indian Oil Corporation Limited, Panipat, Haryana*
- Designed a machine learning-based NIDS using the UNSW-NB15 dataset (89.5% accuracy, 0.97 ROC-AUC).
- Built an MLP with Focal Loss and dropout to improve threat detection on imbalanced traffic data.
- Released an interface using Streamlit to visualize and monitor threats in real-time CSV-based data.

**Research Intern** *May 2024 – June 2024*
*IIT Jodhpur, Rajasthan, India*
- Collected real-time sensor data and trained a regression model for health monitoring.
- Implemented the model on Raspberry Pi for on-device predictions and alerts.
- Launched a cloud-based patient-doctor portal using AWS EC2 and DynamoDB.

**Technical Team Member** *Aug 2023 – Jun 2024*
*SRM Team Robocon, Chennai, Tamil Nadu*
- Maintained and developed the official website for SRM's robotics club, Team Robocon.
- Used Next.js, React.js, and Tailwind CSS to build responsive, modular web components.
- Ensured regular updates and streamlined deployment to improve outreach.

## Projects

**Network Intrusion Detection using Deep Learning** *project*
- Built an interactive dashboard using Streamlit with CSV-based input and real-time threat visualizations.
- Enhanced intrusion detection on imbalanced data using MLP with Focal Loss and dropout.
- Achieved 89.5% accuracy and 0.97 ROC-AUC on the UNSW-NB15 dataset using ML-based NIDS.

**CapitalCue – AI Branch Manager** *project*
- Built a web platform simulating a bank branch with AI video assistant and rule-based loan approval.
- Added OCR for document parsing (Aadhaar, PAN, income, bank statements) with instant eligibility checks.
- Integrated an AI chat assistant available 24/7 to handle user queries related to the loan process.

## Achievements

- **1st Place – Standard Chartered Finance & Technology Connect** (Mar 2025)
  Won the Standard Chartered Hackathon at SRM Institute of Technology for CapitalCue.
- **1st Place – AIoT Project Expo** (Jan 2025)
  Secured top position for innovative robot for weed extermination.
- **Runner-up – Mahakumbh 2025 Hackathon** (Mar 2024)
  Presented AI-based crowd optimization solution under the theme of Security, Surveillance, and Mobility.

## Certifications

**Oracle Cloud Infrastructure 2024 Certified Foundations Associate** *Oracle* *Feb 2025*
Credential ID: 101261232OCI2024FNDCFA
**AI Specialist** *Salesforce* *Jan 2025*
Credential ID: 5695954, [sforce.co/verifycerts](sforce.co/verifycerts)