Sohini Banerjee

Kolkata, India | (+91) 98740 38011 | son20apakhi05@gmail.com
linkedin.com/in/sohini-banerjee | github.com/sosush | sohinibanerjee.vercel.app

Summary

Motivated Computer Science Engineering undergraduate (GPA 8.59) with expertise in **Java**, **Python**, and **Full Stack Development**. Proven track record in architecting scalable microservices, deploying blockchain solutions, and building AI/ML models. Seeking a Software Development Internship to leverage skills in **Data Structures**, **Algorithms**, and System Design.

Education

Vellore Institute of Technology (VIT) Chennai, TN
B.Tech in Computer Science and Engineering (AI & ML) *Jul. 2024 – Present*

- **CGPA**: 8.73 / 10.0
- **Coursework**: Data Structures and Algorithms, Operating Systems, DBMS, Computer Networks, OOP.

Delhi Public School Kolkata, India
Senior Secondary (Class XII) - Science *Mar. 2022 – Mar. 2024*

- **Score**: 91.2%

Experience

Software Development Intern Jun. 2024 – Aug. 2024
Hackfinity *Chennai, India*

- Developed and deployed responsive web interfaces using **React.js** and **JavaScript**, reducing page load time by **25%**.
- Collaborated with the backend team to integrate **RESTful APIs**, ensuring seamless data fetching for 1000+ daily users.
- Fixed critical bugs in the frontend codebase and documented technical specifications to support future development.

Projects

PRISM Protocol | *Java, Python, Spring Boot, Blockchain, OpenCV* Oct. 2024

- Designed a decentralized identity system using **Spring Boot** microservices and **FastAPI** for deepfake detection.
- Implemented real-time liveness detection using **OpenCV**, preventing AI replay attacks with 99% accuracy.
- Deployed Smart Contracts on Polygon blockchain using **Solidity** to issue Soulbound Tokens (SBTs) for identity verification.

Genesis - AI Code Synthesis | *Python, Machine Learning, Matplotlib* Sep. 2024

- Built a Genetic Programming engine in **Python** that automatically generates code algorithms by evolving Abstract Syntax Trees.
- Optimized memory usage by 40% using Adaptive Mutation logic and visualized fitness trends using **Matplotlib**.
- Achieved 100% convergence on symbolic regression tasks, demonstrating advanced algorithmic problem-solving.

Network Intrusion Detection System | *Python, Scikit-Learn, Pandas* Aug. 2024

- Developed a security model using Random Forest and SVM classifiers to detect network attacks (DoS, Probe).
- Processed raw network traffic logs using **Pandas** and **SMOTE** for data balancing, achieving **99.2% accuracy**.
- Reduced false positive rates to under 0.5% by optimizing feature selection algorithms.

Technical Skills

Languages: Java, Python, C++, JavaScript, SQL, HTML/CSS, Solidity
Frameworks: React, Spring Boot, FastAPI, Node.js, Scikit-Learn, TensorFlow
Tools & Platforms: Git, GitHub, Docker, Linux, VS Code, MySQL, Postman
Core Concepts: Data Structures, Algorithms, DBMS, OOP, System Design, SDLC