VIBHAS DUTTA

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PROFESSIONAL SUMMARY

Final-year B.Tech Cybersecurity student with hands-on experience in web penetration testing (OWASP Top 10), vulnerability assessment, and SOC operations. Proficient with industry-standard tools including Burp Suite, Metasploit, Nmap, and OWASP ZAP. Experienced in red-team payload engineering, threat detection, and AI-driven security automation. Seeking an entry-level SOC Analyst or Penetration Tester role to apply practical skills in a professional environment.

TECHNICAL SKILLS

Offensive Security: Burp Suite, Metasploit, Hydra, Gobuster, OWASP ZAP, Nikto, SQLmap

SOC / Defensive: Log analysis, Threat intelligence, Incident triage, SIEM concepts, Network traffic analysis

Networking & OS: Nmap, Wireshark, TCP/IP, DNS, HTTP/S, Kali Linux, Ubuntu, Windows

Programming: Python (scripting, automation, tool development), Bash

Cloud & DevOps: Google Cloud Platform, Git & GitHub, Docker (basics)

Automation / AI: n8n workflow automation, AI/ML integration for security tooling

Blockchain / Web3: Smart contract interaction, Ethereum, dApp development

PROJECTS

ObfusEngine — Red Team Payload Obfuscation Engine

2025

Python • Open Source • github.com/vibhasdutta

- Built a modular Python engine that automates multi-layered PowerShell script obfuscation and payload generation for red team operations and adversary emulation.
- Implemented configurable obfuscation pipelines and format converters (HTA, XSL, dual-extension EXE) to simulate realistic covert payload delivery chains.
- Designed with extensible plugin architecture enabling new obfuscation techniques to be added without core modification.

EVIBLOCK v2.0 — Blockchain Digital Evidence Platform

2024 – 2025

Python • Ethereum Smart Contracts • IPFS • Cryptographic Hashing

- Engineered a blockchain-based evidence verification system using smart contracts to create tamper-proof, immutable audit trails for digital forensic data.
- Integrated SHA-256 cryptographic hashing for file integrity verification, ensuring chain-of-custody compliance critical for legal and forensic contexts.
- Designed to address real-world challenges in digital evidence admissibility — preventing post-collection tampering by any party.

PassGen AI — AI-Powered Password Security Analyzer

2025

Python • Machine Learning • Security Tooling

- Developed an AI/ML-powered tool that evaluates password strength, identifies common attack patterns (dictionary, brute-force vectors), and generates hardened alternatives.
- Trained model on real-world breach datasets to accurately flag weak and compromised credential patterns aligned with NIST password guidelines.

NOXBOT — Context-Aware AI Discord Moderation Bot

2025

Python • Discord API • NLP / AI • noxbot.tech

- Built an AI-driven moderation bot that reviews user interaction history and applies a structured decision matrix before taking action (timeout/kick) — eliminating false positives common in rule-based systems.
- Integrates NLP toxic-content detection with contextual reasoning, reducing erroneous moderation events by design.

STREAMIX — Terminal Anime Interface & Watch Party System 2025

Python • Textual TUI • mpv IPC • ngrok • Real-time Networking

- Built a high-performance terminal anime interface and watch party system featuring real-time mpv IPC synchronization, integrated voice/text chat, and hash-ID-based moderation to prevent evasion.
- Engineered a keyboard-driven Textual TUI dashboard with intelligent search, sequential auto-play, ngrok tunnel hardening, and persistent cross-device watch history.

TERMICHAT — Encrypted Terminal Chat Room 2023 – 2024

Python • TCP Sockets • Networking

- Implemented a multi-user terminal chat application using raw Python sockets over TCP, demonstrating deep understanding of network protocol fundamentals relevant to packet analysis and traffic inspection in SOC work.

EDUCATION

B.Tech — Computer Science Engineering (Cyber Security) 2022 – 2026

Sharda University, Greater Noida, Uttar Pradesh

- Relevant coursework: Network Security, Ethical Hacking, Cryptography, Digital Forensics, VAPT, Cloud Security.

Higher Secondary (Class XII) 2020 – 2021 | 91%

Narayana Academy

Secondary School (Class X) 2019 – 2020 | 68%

Army Public School

CERTIFICATIONS & ACHIEVEMENTS

- **Introduction to Cybersecurity** — Cisco Networking Academy
- **CTF 101: Competitive Learning in Cybersecurity** — Udemy

ADDITIONAL INFORMATION

Languages: English (Professional), Bengali (Native), Hindi (Fluent), Japanese (Learning)

Interests: Website Pen testing, SOC, Threat hunting, AI security , AI Automation

Availability: Immediate — open to internships, part-time, and full-time roles