

# Ujjwal Singh

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[Portfolio](#)

Cybersecurity Enthusiast / Certified Ethical Hacker / Python / AI/ML / Network Security

## Objective

Cybersecurity and AI Enthusiast with hands-on experience in threat monitoring, incident detection, and security automation. Skilled in Python, risk analysis, and compliance, with a proven ability to deliver analyst-ready dashboards and security reports.

## Projects

### Network Scanner

- Built an advanced terminal-based network security scanner with Python, featuring quick, full, and custom port scans.
- Implements vulnerability assessment and automated IP detection with an interactive menu-driven interface.

### FortiPass

- Created a modern Python-based password strength tester that analyzes passwords using entropy calculations, OWASP guidelines, and pattern detection
- Ensures user privacy by storing only analysis metrics, not the passwords themselves.

### StegoShield

- Developed a Python-based steganography tool for securely embedding and extracting hidden information within digital images.
- Utilizes advanced covert communication and data protection techniques for sensitive data concealment.

## Skills

- **Cybersecurity:** Penetration Testing, Ethical Hacking, SOC Analysis, Threat Analysis, Vulnerability Assessment, Incident Response, Log Analysis
- **Networking:** TCP/IP, OSI Model, Networking Protocols, Secure Protocols
- **Systems & OS:** Linux, Windows, Bash Shell Scripting
- **Tools & Technologies:** Nmap, Wireshark, BurpSuite, theHarvester, Splunk, VMware, Git
- **Programming & Databases:** Python, SQL, C++, MySQL, NoSQL, HTML
- **Data Science & ML:** TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, OpenCV, Matplotlib, Seaborn
- **Frameworks & Libraries:** Flask, BeautifulSoup, Scrapy, Streamlit, Requests, bcrypt, PIL/Pillow

## Certifications

[EC-Council: Certified Ethical Hacker](#), [Google Cybersecurity](#), Improving Cisco: Cybersecurity Operations Fundamentals, Coursera: Object-Oriented [Data Structures in C++](#), Managing Network Security, [Algorithmic Toolbox](#), Exploratory Data Analysis for Machine Learning, Software Engineering, [Security 101 by TryHackMe](#)

## Work Experience

### Cisco Virtual Internship

June 2025 – August 2025

- Successfully completed the AICTE Virtual Internship Program in Cybersecurity offered by Cisco Networking Academy.
- Developed essential skillsets for cybersecurity and networking, focusing on practical industry standards.
- Collaborated with Bennett University and Cisco program partners for hands-on learning alongside global peers.

## Research & Publications

AI-Powered Ransom Negotiation for Mitigating Cyber Extortion Losses in Digital Arrest Scams *Published & Presented at IEEE International Conference on Advances in Computing Research on Science Engineering and Technology (ACROSET 2025)*

- Authored and presented research on a novel AI-driven framework to automate ransom negotiation with attackers.
- The model is designed to analyze attacker behaviour and negotiation tactics to mitigate financial losses from "digital arrest" and other cyber extortion scams.
- Certificate – [Research Paper](#)

## Competitions & CTFs

- Collaborated in a 3-member team during the Indian Army Terrier Cyber Quest CTF 2025
- Participated in KPMG Campus Edition CTF 2025
- Collaborated with a 3-member team to identify and report a critical account takeover vulnerability involving stolen session cookies and unverified email changes. (Netflix Report)

## Education

### Bennett University

Bachelor of Technology - Computer Science

September, 2022 - June, 2026

Greater Noida, Uttar Pradesh, India