

PRIYESH E.M

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SUMMARY

Cybersecurity professional pursuing an M.S. in Cybersecurity at The George Washington University (Dec 2025) with prior experience at EY in technology risk management and penetration testing internships. Skilled in penetration testing, vulnerability assessment, incident response, and cloud security (AWS Certified Security – Specialty), with hands-on expertise across AWS, Azure, and GCP. Published research on intrusion detection, cryptography, and AI-driven cyber defense, and developed projects including a Cyber Threat Intelligence dashboard and secure client-server encryption systems. Certified in AWS, Red Hat, Google, Microsoft, and Security+, with a strong foundation in compliance frameworks (NIST, ISO 27001, HIPAA, SOC2, PCI-DSS) and proven leadership through student organizations and technical workshops.

TECHNICAL SKILLS

- **Programming/Scripting Languages:** Python, Java, C#.Net, C, C++, Bash, PowerShell, SQL, HTML, JavaScript, Linux Scripting
- **Security & Network Tools:** Metasploit, Burp Suite, Nmap, Nessus, Wireshark, OpenVAS, Splunk, Microsoft Azure AD, Snort, OSSEC, Suricata, ELK Stack (Elasticsearch, Logstash, Kibana)
- **Cybersecurity & Technical Expertise:** Penetration Testing, Vulnerability Assessment, Threat Detection, Incident Response, Risk Management, Security Automation, DevSecOps (CI/CD Security Integration), Identity & Access Management (IAM), Zero Trust Security, Cloud Security (AWS, Azure, GCP), Network Security Monitoring, Web Application & API Security (OWASP Top 10, Secure Coding)
- **Operating Systems & Documentation:** In-depth knowledge of Linux/Windows tools/architecture and logging systems; Experience developing and maintaining security documentation (threat models, risk assessments, security guidelines)
- **Data Security & Compliance:** Proficient in securing sensitive data and ensuring compliance with industry standards (HIPAA, ISO 27001, NIST, SOC2, PCI-DSS), Implemented data loss prevention (DLP) strategies and cryptographic solutions
- **Cross-Functional Collaboration & Leadership:** Worked with multi-disciplinary teams to resolve cybersecurity challenges; Experience in cloud computing, network security, Governance, Risk, and Compliance (GRC), Led security awareness training and collaborated with IT teams to enforce security best practices

RELEVANT WORK EXPERIENCE

The George Washington University - LAISER Volunteer Cybersecurity Research Assistant

Washington, DC
Feb 2026 – Present

- Improved security across ML datasets and APIs by implementing baseline controls (auth, access permissions, encryption), running vulnerability scans, and auditing open-source dependencies. Built production-ready skill extraction APIs with API-key authentication, standardized schemas, and ESCO/O*NET alignment, enabling external integrations beyond Python workflows.
- Supported privacy-safe experimentation by reviewing endpoints for common security issues and documenting actionable mitigations for PII-sensitive data.

The George Washington University Student Academic Assistant - Algorithms and Data Structure

Washington, DC
Sep 2025 - December 2025

- Mentored undergraduates in algorithms and data structures (recursion, sorting, trees, graphs, dynamic programming). Built Python scripts to automate grading/feedback, boosting efficiency and consistency.
- Developed scalable course support tools to improve accuracy and productivity. Connected algorithmic concepts to secure system design and threat detection and partnered with faculty on review sessions and structured student support.

Ernest and Young - Global Delivery Services Analyst - Business Consulting - Technology Risk Management

India
June 2022 - December 2023

- Led over **10+** technology, business, and security audits as an analyst, ensuring compliance with industry standards.
- Played a key role in completing **two major projects** focused on audit automation, compliance tracking, and security tool enhancements, improving operational efficiency by **30%**. Optimized data analysis workflows using advanced Excel functions, reducing manual effort in compliance reporting by **40%** through automation and streamlined data processing.

Illumine Career Center Penetration Tester - Intern

India
January 2022 - May 2022

- Led over **5+ front-end development projects**, enhancing **UI/UX** functionality and improving application responsiveness by **30%**. Conducted penetration testing and network monitoring, identifying and mitigating **12+** security vulnerabilities, and strengthening system defenses.
- Managed access-control systems, ensuring secure authentication and role-based access, reducing unauthorized access incidents by **25%**. Provided IT support, maintaining **99.0%** system uptime, troubleshooting technical issues, and optimizing digital system operations for better efficiency.

**Revisewell
Security Engineer**

**India
January 2020 – December 2021**

- Designed and implemented the company's end-to-end cybersecurity program, developing policies, standards, and controls aligned with the CIS framework. Secured AWS infrastructure through least-privilege IAM, VPC configurations, and S3 policy enforcement reducing the cloud attack surface by 60%.
- Led incident response operations involving digital forensics and malware analysis, while building proactive threat detection using custom SIEM rules and SQL-based hunting queries. Automated vulnerability management and remediation workflows with Python and PowerShell, achieving a 40% reduction in critical vulnerabilities and strengthening enterprise IAM.

TECHNICAL PROJECTS

V.I.G.I.L - Visual Inspection, GEOINT & Intelligence Locator

Feb 2026

- Built a one-click visual intelligence scanner that analyzes image folders for unintended sensitive exposure (OCR for passwords/seed phrases, QR resolution to risky URLs/wallets, object detection for cards/devices), extracts GPS from EXIF, runs stego heuristics (entropy/LSB/trailing bytes), and outputs a severity-ranked, self-contained HTML report.

GitHub Branch Protection Auditor

Jan 2026

- Built a Python compliance auditor that assesses effective branch protection across a GitHub org using the Repository Rulesets API (with fallback support for legacy protection), producing evidence-ready CSV output mapping enforcement.

SecPatchLab - Ubuntu

Jan 2026

- Built SecPatchLab, a full-stack Ubuntu security and patch-validation lab that correlates installed packages with Canonical OVAL CVE data and validates fixes in a Docker sandbox via FastAPI and React.

Serverless Event-Driven Workflow on AWS

Dec 2025

- Developed a production-ready serverless, event-driven workflow on AWS using CDK (TypeScript), implementing retries, idempotency, DLQs, and end-to-end observability with EventBridge, SQS, Lambda, DynamoDB, and CloudWatch.

SwapStack

Aug 2025

- A peer-to-peer platform that uses AI to deliver instant, fair **market valuations** for used electronics. Users upload images and descriptions, and the system leverages real-time web data to provide objective, data-driven pricing.

Agentic AI Assistant

July 2025

- Developed an intelligent research assistant using Google Gemini for advanced analysis, featuring intelligent task planning, context-aware responses with long-term memory, customizable behavior, and integrated data visualization

SIEM Sentinel

June 2025

- Built a web-based SIEM tool using Python and Flask for analyzing security logs. Features include automated detection of brute-force attacks, port scans, and blacklisted IPs, with geolocation enrichment and an interactive dashboard for centralized alert management.

CTI Dashboard

May 2025

- Using Flask, built a Cyber Threat Intelligence (CTI) dashboard that displays IP reputations through the AbuseIPDB API. Security analysts could then assess, filter, and investigate IPs considered malicious through an interactive, real-time interface.

MOM (My Own Medic)

Mar 2025

- An AI-powered personalized healthcare assistant that integrates with EHRs using **FHIR API** to provide real-time health tracking, predictive analytics, and proactive recommendations, ensuring **HIPAA-compliant security** and seamless wearable device integration for enhanced user health insights.

Echo Client – Server Encryption

Sep 2024

- Developed a **hybrid encryption system** for a **secure echo client-server**, implementing RSA key pair generation for secure key exchange. The client encrypts a symmetric AES key and HMAC key using RSA (OAEP padding), ensuring end-to-end data confidentiality. Applied AES-CBC mode for encryption and SHA-256 for HMAC, strengthening data integrity and security.

Cyber intrusion detection and notifying systems using ML approaches

June 2021

- Developed a **Cyber Intrusion Detection System (CIDS)** using Machine Learning, detecting **10+** cyber-attack types with **90%** accuracy and integrating a real-time alert system for instant threat notifications to administrators.

Alumni Portal

Dec 2019

- Alumni Portal is a stand-alone, real-time application developed using C#.Net with primary requirements, to collect, store, and maintain passed-out student information of a particular college. The backend of the application is designed via **SQL Server**.

ATM System Simulation

July 2019

- ATM System Simulation is a Java-based application developed as a prototype with similar functionalities of real ATMs (Automated Teller Machines) including basic functionalities. The database is designed in MySQL.

EDUCATION

The George Washington University, School of Engineering & Applied Science

Master of Science in Cybersecurity in Computer Science (CGPA: 3.71/4.0)

Washington, DC

December 2025

Symbiosis International University

Master's in System Security (CGPA: 7.54/10.0)

India

December 2022

Vijayanagara Sri Krishnadevaraya University

Bachelor of Computer Applications (CGPA: 8.7/10.0)

India

December 2020

RESEARCH PUBLICATIONS

- **"A Machine Learning-Based Novel Cyber Intrusion Detection System for Network Administration"** – Published on January 2026 in Advances of Artificial Intelligence and Machine Learning in Image Processing, Security and Data Analytics - Springer
- **"Cryptography System for Securing Data Image in Fog Computing"** – Accepted for publication in top Q1 and Q2 journal 2025; explores encryption techniques for secure data transmission in fog computing.
- **"Deep Learning Algorithm for Cyberbullying Detection on Social Media"** – Accepted for publication in top Q1 and Q2 journal 2025; applies deep learning models to detect and prevent cyberbullying patterns on social media.

CERTIFICATIONS

- **GitHub Copilot** - Demonstrating proficiency in AI-powered code generation, code completion, and developer productivity workflows. Also includes the basic security operations included within GitHub and Copilot.
- **CompTIA Security+ (SY0-701)** – Foundational cybersecurity certification covering threat analysis, risk mitigation, secure network architecture, incident response, identity management, cryptography, and compliance (**NIST, ISO, PCI-DSS**).
- **AWS Certified Security – Specialty (SCS-C02)** - Advanced AWS security, covering specialized data protection, infrastructure security, incident response, IAM, and comprehensive monitoring.
- **AWS Certified Solutions Architect – Professional (SAP-C02)** – Advanced AWS architecture design, focusing on complex architectures, security, resiliency, performance, cost optimization, and large-scale governance.
- **RedHat** – System Administration I and II (**RH124 and 134, 2025**), OpenShift Administration I (**RHDO180, 2025**).
- **AWS Academy Cloud Security Foundations (AWS, 2025)** – Fundamentals of securing AWS cloud environments, including identity and access management, data protection, incident response, and compliance best practices.
- **AWS Academy Cloud Operations (AWS, 2025)** – Core AWS operations skills including monitoring, automation, scaling, and incident response.
- **AWS Academy Cloud Foundations (AWS, 2025)** – Fundamentals of AWS cloud architecture best, security, and practices.
- **Career Essentials in Cybersecurity (Microsoft & LinkedIn, 2025)** – Core cybersecurity concepts, risk management, and threat mitigation strategies.
- **Cybersecurity Analyst Job Simulation (Tata Group, 2024)** – Hands-on experience in security operations, threat detection, and incident response.
- **Google Cybersecurity Specialization 2024** – Security principles, vulnerability management, and compliance frameworks.
- **Cyber Security Certification (NIT Rourkela)** – Advanced training in network security, cryptography, and penetration testing.
- **Python Programming Certification (IANT)** – Python for automation, data security, and scripting in cybersecurity applications.
- Certified Ethical Hacker and CompTIA CySA+ (Target: Spring 2026)

LEADERSHIP

- **President** – George Washington Desis Organization & **Vice President** – Google Developer Groups (GDG) at GWU
Spearheaded technical initiatives, cultural programs, and community engagement efforts to foster innovation and inclusiveness. Led multiple tech workshops, hackathons, and networking events to bridge the gap between students and industry experts.
- Former IEEE Member at SICSR, actively contributed to Stage 0 technical and cultural events during my bachelor's degree.
- **Guinness World Record Holder** – Western & Classical Dance
Achieved global recognition for excellence in Western and Classical dance, showcasing dedication, discipline, and performance excellence. Secured national-level achievements in Western dance competitions
- **Multifaceted Athlete & Artist** State-Level Football Player, showcasing teamwork, strategy, and perseverance. Accomplished painter and guitarist, demonstrating creativity, artistic expression, and a well-rounded skill set beyond the technical domain. Successfully balanced sports, arts, and leadership roles, emphasizing adaptability, collaboration, and a growth-oriented mindset.