Abheek Mondal

Cybersecurity Engineer (SOC) | Risk and Vulnerability Analyst

abheekmondal@gmail.com | linkedin.com/in/abheekmondal | github.com/abheekmondal | +91 9266547587

Summary

Cybersecurity Engineer with a Master's degree seeking a role focused on ethical hacking, risk assessment, and evaluation of the security, infrastructure, and compliance of systems and software. Obtained ISO 27001 ISMS Lead Implementer certifying me with over 7 years of experience in implementing secure systems and managing risk and compliance obligations. I have experience identifying vulnerabilities and exploitable risks in systems to develop customized solutions to mitigate security threats.

Work Experience

IPMC Ghana Accra, Ghana

ISO 27001 Lead Implementer 2024 – 2025

- Spearheaded the implementation of ISO 27001 at IPMC Ghana across the main office and its subsidiaries
- Conducted GAP analysis and estimated budget required for each of the locations to determine the changes that need to be made
- Created critical asset registries for all three branches, totaling over **800,000 USD and assigned risks** and contingency plans for severe risk assets
- **Authored over 36 detailed ISO compliant policies** for each of the branches, improving IPMC's efficiency by 23%, including a detailed CSIRP

WebApp Pentester

- Developed a detailed Pentesting manual and used comprehensive tools such as OWASP ZAP, SQL injection, XSS, and other tools.
- Collaborated with development teams to implement security fixes, enhancing security of the webapp before deployment.
- Developed detailed vulnerability reports with risk assessment and proper remediation steps to take to effectively communicate details to technical and non-technical managers.
- Identified more than 40 vulnerabilities, including over 12 critical issues, and contributing to a **25% reduction in overall risk** exposure.

Cybersecurity Solutions Architecture

- Collaborated directly with the CEO to develop strategic cybersecurity initiatives and spearhead targeted client engagement, driving business growth and strengthening market presence and gaining 12 different clients
- Conduct in-depth analyses of clients' existing infrastructure and systems to identify potential security weaknesses, vulnerabilities, and compliance gaps
- Develop tailored, threat-mitigating solutions for vulnerable systems, incorporating best practices in security architecture, and emerging threat intelligence.
- Improved client cybersecurity infrastructure, resulting in a **15% enhancement in system resilience** against cyber threats
- Enhanced cybersecurity protocols by **reducing vulnerability exposure by 30%** by implementing comprehensive risk assessments

ESports Trade Association Chicago, IL

Webmaster (Full-Stack Developer) 2022

- Managed ESTA's website ensuring **90% uptime** and a 25% improvement in operational efficiency.
- **Increased site traffic by 20%** through the development of 32 custom WordPress pages.
- Improved website speed and responsiveness by 30%, enhanced cross-platform functionality, boosting user experience by 15%.

Education

ILLINOIS INSTITUTE OF TECHNOLOGY
Master of Science, Computer Systems and Software Specialization in Cybersecurity — Jan 2023 – Dec 2023

- Achievements: 3.65, Magna Cum Laude
- Courses: Application Software Design, Wireless Network Protocols, Cloud Computing & Native Systems, Embedded Systems and Software, Security protocols, Encryption Algorithms and Cryptography, Intro to Artificial Intelligence

ILLINOIS INSTITUTE OF TECHNOLOGY
Bachelor of Science, Computer Engineering — Aug 2019 - Dec 2022

- Achievements: IIT Dean's Honor List (2020-2023)

Skills

Programming Languages:
Java, Python, Java Spring, HTML/CSS, LiveCode, MatLab, Assembly (x86 Syntax), Go, R, JS, PSP, React, Net.js, Javascript, Kubernetes, GoLang, MySQL, Azure, Apache

Software:
GitHub, Visual Studio, Eclipse, Atlassian BitBucket, Anaconda, GoDaddy, WordPress, AutoCad, SolidWorks, Slack, Xilinx Vivado for VDHL, Caddence Virtuoso (Microchip Design), Cisco Packet Tracer

Hardware:
Sanper-1, Motorola-6800Arduino, Raspberry Pi, Jetson Nano, Sensors, I2C, SPI, IoT Devices

Operating System:
Windows, Windows Server, Linux Server, Athena OS, Parrot OS, Kali Linux

Test Tools:
OSWAP, Nikto, Metasploit, Wireshark, Autopsy, BurpSuite, Hydra, Aircrack-ng. SQLmap

SIEM Tools:
DarkTrace, Solar Winds, Splunk, Rapid7, Fortigate

Management & Leadership:
Agile Development and Workflow, Scrum Master, Kanban, Atlassian, Jira, Azure DevOps

Relevant Courses/ Training

Encryption Algorithms and Cryptography (Illinois Institute of Technology)
Wireless Network Security protocols (Illinois Institute of Technology)
Cybersecurity for Hardware Architecture Design (Illinois Institute of Technology)
Wireless Network Protocols (Illinois Institute of Technology)
Cloud Computing & Native Systems (Illinois Institute of Technology)
C|EH + C|EH Practical (EC Council)
KPMC ISO/IEC 27001 Training (PECB)

Certifications & Memberships

PECB ISO/IEC 27001: ISMS Lead Implementer 2025
Problem Solving (Intermediate): Hackerrank Certification
SQL(Advanced): Hackerrank Certification
GO : Hackerrank Certification
Python: Hackerrank Certification
IEEE - HKN: IEEE Honor Society
Order of Engineering: Order of Engineering Honor Society
IIT Greek Council: Held positions of VP of Recruitment and VP of Chapter Excellence
Alpha Sigma Phi: Held position of New Member Educator

Projects and Other Experiences

WhatsRoute (Lead Software Developer and Engineer) 2024

- Developed **technical architecture design** for a restaurant ordering system integrated with the WhatsApp Business API.
- Orchestrated project timelines and deliverables using Agile methodologies and Scrum, led bi-weekly sprints.
- **Led a cross-functional team** for the backend and system integration development.
- Implemented a location-based service using Google Maps API.

RND4IMPACT Inc. (Data Analyst) 2024

- Conducted in-depth analysis of business sales data using Python, GraphQL, and Lambda, identifying key insights and potential **fraud patterns**.
- Performed trend analysis and regression techniques to **deliver actionable insights** that optimized marketing efforts.
- Developed reports to **translate complex datasets** into non-technical language, enhancing stakeholder understanding and decision-making.

EcoCar EV Challenge 2022-2023

- Led cross-functional research teams to design system controls and data-driven decision-making frameworks, using CAN bus controls, ensuring safety protocol compliance.
- Pioneered the modification of the Platinum Model using MathWorks and Simulink, boosting system performance, achieving all project KPIs.
- Collaborated on VSPD drive trace reports and system robustness testing, accelerating project timelines by 10%.
- Developed a blueprint of sensor interactions with the vehicle's sensor fusion system, ensuring integration testing across modules.

Research on Distributed Clock Algorithms 2023

- Conducted pioneering research in distributed clock algorithms, recognizing their critical role in ensuring accurate timekeeping across networks, vital for applications like distributed databases and real-time systems, addressing potential security vulnerabilities in timing protocols.
- Implemented a novel Gossipping Time Protocol (GTP), addressing limitations of existing protocols by decentralizing clock synchronization and achieving faster convergence to accurate time values.
- Leveraged a gossip-based algorithm, enabling nodes to exchange time information asynchronously. Through parallel execution using threads and random neighbor selection, the code efficiently propagates clock updates while minimizing overhead.

SmartHart Hardware Lead and Cybersecurity Co-lead 2022 - 2023

- Designed hardware blueprint of all sensors necessary, as well as the custom PCB board for the watch.
- Successfully implemented a voltage regulator within the system to ensure a consistent output of voltage, providing stability and reliability to the overall project. Decreasing malfunction risk by 20% to the user.
- Spearheaded the comprehensive integration of sensor arrays and LED systems, overseeing every phase from installation to functional verification. Leveraged technical insight to ensure seamless operation and enhanced performance, directly contributing to 40% completion of the project and shortening project timeline by 15%.
- Applied advanced signal-processing expertise to decode and integrate uECG (micro electrocardiogram) device signals. Enabled high-fidelity cardiac data acquisition and real-time analysis by aligning device compatibility and calibration, enhancing the accuracy, utility, and the security of the health-monitoring system by 8%.

Orthogonal Time Shift Modulation 2022

- Conducted an in-depth survey on Orthogonal Time Shift Modulation (OTSM) with comprehensive analysis of its theoretical foundations, performance evaluation, and practical implementation challenges, showcasing expertise in modern wireless network protocols and standards.
- Demonstrated OTSM's robustness against synchronization errors, improved spectral efficiency, and multi-user support, positioning it as a practical candidate for next-generation communication systems, while addressing key challenges such as multi-user detection, interference mitigation, and the trade-off between performance and complexity.