

Hyoeun Choi

Offensive Security Engineer | Penetration Testing | Automation | AI

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I'm an Offensive Security Engineer who doesn't just find vulnerabilities - I build the solutions. I bridge the gap between 'breaking' systems (Penetration Testing) and 'building' them (Software Engineering & Automation & AI). This dual expertise in development and security allowed me to engineer a robust automation pipeline as an internal tool, resulting in over \$1M in cost savings for the company.

Work Experience

Cybersecurity Analyst

January 2022 - Present

Visa · Austin, Texas, United States

- Spearheaded advanced penetration testing across Mobile, Web, and IoT systems.
- Expanded security testing to include Generative AI, simulating emerging threats against the OWASP Top 10 for LLM vulnerabilities.
- Directed (as Project Lead) a 4-person team for a 3-year strategic initiative to architect and deploy a scalable, in-house security infrastructure and an AI-driven threat intelligence pipeline.
- Leveraged AI to significantly boost threat detection performance and integrate advanced automation, replacing vendor tools and resulting in over \$1M in cost savings.

Security Researcher

June 2020 - May 2021

CableLabs · Remote

- Engineered the machine learning models to detect abnormal Border Gateway Protocol(BGP) updates for mitigating prefix hijacking and AS path manipulation.
- Developed a custom visualization dashboard for the BGP intrusion detection system, enabling real-time threat monitoring and attack event notification.

Security Engineer

January 2019 - June 2019

Eloicube · Seoul, South Korea

- Independently led the full lifecycle of a Proof of Concept (PoC)-from research and design to implementation-that was successfully launched as a commercial firewall management solution.
- As a core component of this solution, engineered a robust C# ETL process to handle over 1M+ daily firewall events, ensuring complete data integrity and compliance with security standards.

Education

McCombs School of Business, UT Austin

2024

Post Graduate Program in Artificial Intelligence and Machine Learning

GPA: 4.06/4.33

The Johns Hopkins University

2021

Master's degree, Security Informatics

GPA: 3.93/4.0

Handong Global University

2019

Bachelor's degree, Computer Science

GPA: 3.82/4.0

Certifications

Certified Ethical Hacker (CEH) · Visa Payments Cybersecurity Certified Associate

Core Skills

Penetration Testing (Mobile, Web, IoT), Generative Artificial Intelligence (GenAI), Automation, LLM Security, Reverse Engineering, Python, Bash, JavaScript, SQL, Burp Suite, Ghidra, Azure, AWS, Frida, Objection