Santiago Espinosa Mooser

Contact

Email

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About

An ambitious and detail-oriented final year Computer Science student at the University of Hong Kong, specializing in Cyber Security and DevOps. Experienced in diverse roles across multiple internships, including DevSecOps, Penetration Testing, Operational Cyber Security, and Software Development. A strong team player and effective communicator, with a demonstrated ability to collaborate with colleagues and senior management to deliver high-impact projects. Actively seeking a challenging Graduate Cyber Security role in a fast-paced, dynamic environment in Hong Kong or Europe, where I can apply and expand my skillset to contribute to the organization's success.

Profiles

GitHub

santiago-mooser

LinkedIn

santiago-mooser

Keybase

santiagoespinosa

cv

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Work

Hex Trust	Jun 2022 – Present
DevSecOps Engineer (Full-time/part-time)	hextrust.com

Focused on the 'Build' initiatives and 'Shift Left' approach by delivering several projects within DevSecOps, Application Security, Security Automation and Cyber Defense.

Highlights

- Designed, implemented, and maintained the company's first-ever DevSecOps pipeline, preventing vulnerable code, secrets, and dependencies from reaching production using Snyk, tfsec, Clair, and trufflehog. Adapted rules based on the company's Git branching strategy.
- Personally led the Snyk vulnerability management tool integration, achieving a 20% reduction in active, potentially exploitable vulnerabilities within the first month.
- Deployed and maintained next-gen WAF (Signal Sciences) to protect against OWASP Top-10, various web CVEs, and enumeration attacks. Managed the ruleset through Terraform Infrastructure as Code (IAC) for optimized security.

- Automated provisioning of company Yubikeys, reducing provisioning time from ~45 minutes to <1 minute. The open-source scripts can be found on my GitHub.
- Led the adoption of YubiKey hardware smartcards for company-wide code signing, significantly enhancing security measures across the organization.
- Conducted thorough investigations on critical security incidents by analyzing logs and alerts from the company's SIEM and WAF systems, and provided recommendations to the Head of Cybersecurity.
- Collaborated with Head of Cybersecurity to evaluate and test next-generation WAF/RASP and automated pentesting tools.

Handshake Networking

May 2020 – Jan 2022

Pentester, Software Developer, DevOps Engineer (full-time/part-time)

handshake.hk

Worked in various roles due to the small size of the company: Pentesting, Automation Engineering, Web Development, System Engineering.

Highlights

- Designed, developed, and deployed a Python-based Django backend API to automatically scan vessels worldwide using remote scanners, RabbitMQ queues, and asynchronous Celery tasks.
- Managed and maintained company servers and VMs, facilitating the deployment and utilization of internal services such as Bookstack, Samba, Elasticsearch, Microsoft Domain Controller, and Microsoft Remote app server.
- Compiled an Elasticsearch-based database containing over 4.2 billion records of publicly available leaked credentials to enhance penetration testing quality and increase the success rate of brute-forcing client passwords.
- Assisted in the recertification process for the Authorized Scanning Vendor PCI certificate by automating reconnaissance and reporting stages.

- Deployed Docker-based internal services, including Bookstack (an internal wiki), GitLab, and an Ubuntu-based Samba server.
- Developed various internal automation tools and web applications, such as an ike-scan and nmap multithreaded wrapper (available on GitHub).

PWC New Ventures

May 2019 – Dec 2019

DevOps Intern (Full-time), DevOps Engineer Apprentice (Part-time)

www.pwchk.com/en/services/new-ventures.html

Worked within the DevOps team to automate the provisioning of company servers and services.

Highlights

- Collaborated with the Head of DevOps to automate server deployments and provisioning using Ansible and Terraform, reducing deployment and provisioning time from 3-5 business days to 30-45 minutes.
- Developed and maintained Ansible-based playbook for deploying internal communication tool instances (Mattermost) using Docker-compose and Bash.

- Troubleshot certificate issues on Docker-based deployments utilizing tools such as Docker-compose, Lazydocker, and Certbot.

Education

University of Hong Kong
Sep 2018 – Jun 2023

Computer Science
hku.hk

Bachelor

Courses

- Cryptography
- Design And Analysis of Algorithms
- Algorithmic Game Theory
- Principles of Operating Systems

Projects

DevSecOps pipeline
Jan 2022 – May 2022

Programmer

Implemented DAST, SAST, and secure stages for NodeJS projects to enhance early detection of security vulnerabilities. Adapted each environment pipeline to its corresponding development environment, using tools such as Snyk, Zap Scanner, tfsec, Hadolint, JSLint, Sonarqube, and Sigstore.

Ansible-based automation for server provisioning
Jun 2019 – Aug 2019

Programmer

Developed Ansible playbooks for provisioning PWC's servers using Ansible, Jinja2, and Bash scripting, reducing provisioning time from 4-5 business days to 30-45 minutes.

Django-based network scanner API
Oct 2021 – Jan 2022

Programmer

Designed, developed, and deployed a Django-based API for scanning vessels connected to satellite and 4G networks using asynchronous, pluggable 'scan engines' that communicate via RabbitMQ queues.

Django-based covid tracker dashboard
Jan 2021 – May 2021

Programmer

Created a Django-based dashboard for displaying Covid-19 statistics as part of a software engineering course at HKU, utilizing Jira and GitHub in an Agile development process.

Haskell-based interpreter
Jan 2022 – May 2022

Programmer

Developed a custom programming language interpreter using Haskell for a Principles of Programming Languages Course, incorporating features like First-class Functions, Variable Scoping, Monads, and Mutable States. See https://github.com/santiago-mooser/haskell-based-interpreter.git

Computer Science Association Virtual Career Week 2022

Mar 2022 – Apr 2022

Team Lead, Talk Host

Organized and led the 2022 virtual career week event for the Computer Science Association, hosting six speakers from various roles and serving as a host for three fireside talks

Unraid Self-hosted Media Server

Jan 2019 – Present

Team Lead

Deployed an Unraid-based server for personal media and data backup, hosting various Docker-based services such as PhotoPrism and Syncthing, and experimenting with new tools like Syncthing, nextdns.io, rclone, and Syncthing.

Certificates

Certified Mental Health First-aider

Apr 2021

Issued by **The Mental Health Association of Hong Kong**   www.mhahk.org.hk

Skills

Scripting / Automation

Bash   Python   Shell   Linux

DevSecOps & SRE

Kubernetes   Helm   DAST

SAST   Ansible   Terraform

Docker   CIS   Snyk   tfsec

kube-bench

Linux/Unix systems

Ubuntu   Arch   Bash   Systemd

Troubleshooting

System Administration

XCP-ng   Ansible   Azure   AWS

Linode   Digital Ocean

Pentesting

reconnaissance

Network scanning   nmap

ike-scan   Burp suite   Zap scan

Web development

Django   API   RabbitMQ

Celery   Queues   MySQL

Languages

English

Native

Spanish

Native

German

Cantonese

German
Proficient

Cantonese
Rudimentary

Interests

Playing the Bass

Muay Thai, MMA and Running

Co-op Videogames

Cybersecurity and Ethical Hacking

Privacy

Self-hosting

References

Santiago's rich experience in DevOps and Information Security allowed us to complete the design and implementation of our DevSecOps pipeline in a matter of weeks rather than months.

— Shane Read - Chief Information Security Officer at HexTrust

Santiago was always willing to offer his assistance and had excellent technical skills on working software products.

— Kit Ho - Head of DevOps at PWC New Ventures