Jake Polacek

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EXPERIENCE

SLACK, Product Security

Aug. 2022 – Present — Software Engineer II
Feb. 2022 – Aug. 2022 — Software Engineer I
July 2021 – Feb. 2022 — Associate Software Engineer

- Spearheaded the design and implementation of a secure-by-default URL library for processing malformed or malicious URLs in a safe, predictable manner to prevent incidents, such as server-side request forgery attacks.
- Implemented new and fortified existing APIs after developing an intuitive, robust, and reusable permissions framework to reduce the likelihood of authorization-related incidents.
- Architected an internal service with Node.js, GraphQL, and React, improving adoption and discoverability of permissions framework components by integrating user feedback to ensure accessibility for all developers.
- Owned and led the optimization and fortification of the Go-based image processing service deployed on Kubernetes, ensuring secure and resilient handling of user-uploaded content.
- Scaled a Python-based prototype to production, automating vulnerability detection, processing, and reporting to ensure 99% of vulnerabilities were patched within SLA, securing FedRAMP Moderate and High authorizations.
- Developed a comprehensive two-factor authentication library to simplify authentication on any customer-facing endpoints and redesigned the frontend for our Typescript/React infrastructure to improve user experience.

June 2020 - Aug. 2020 — Software Engineer Intern

- Developed an HTML sanitization library in Hacklang to prevent the execution of cross-site scripting attacks (an OWASP Top 10 Security Vulnerability).
- Integrated the project into development for use on Slack to protect its users and the company.
- Open sourced library via Slack HQ's repository to enable external developers to address security vulnerabilities.

SRC INC, Electronic Warfare Unit

May 2019 – Aug. 2019 — Software Engineer Intern

- Rewrote and extended over 100 C# interfaces to reach compatibility with the latest .NET Framework.
- Designed and implemented Python, MSBuild, and Batch scripts to automate compiling, packaging, testing, deployment, and documentation.
- Redesigned and rebuilt Windows Presentation Foundation tool that creates system configurations to utilize upgraded CREW Duke hardware.
- Worked in an Agile workflow on U.S. Government contracts requiring a confidential security clearance.

CORNELL HYPERLOOP, Electrical Team

Jan. 2019 – Dec. 2019 — Team Lead
Aug. 2017 – Dec. 2018 — General Member

- Led a team of 40 undergraduates to design and build the electrical system for a Hyperloop pod for the SpaceX Hyperloop Competition.
- Developed software and configure hardware to autonomously control the pod in response to position, speed, and orientation, or manual override signal.
- Prepared Preliminary and Final Design Reviews to present to SpaceX Engineers in order to receive design feedback.

EDUCATION

CORNELL UNIVERSITY

College of Engineering
B.S., Computer Science
Aug. 2017 - May 2021
College of Engineering
GPA: 3.9/4.0, Magna Cum Laude
External Specialization in Law & Society

Relevant Coursework
Programming Languages & Logic
Data Structures & Functional Programming
Cryptography
Computer Vision
Application to Computer Graphics
Analysis of Algorithms
Operating Systems
Discrete Structures
Embedded Systems
AI Practicum
Language & Information

SKILLS

LANGUAGES

Python | Hacklang | PHP | Go
Typescript | MySQL | OCaml
Java | C/C++ | C#

TOOLS & FRAMEWORKS

Docker | Kubernetes | Bedrock
React.js | Node.js | Next.js

DATABASES

ArangoDB/QL | MySQL | Vitess

MONITORING & VISIBILITY

Elastic | Grafana | Prometheus

LINKS

jakepolacek.com
github.com/JPolacek
linkedin.com/in/jake-polacek/

INTERESTS

Running | Public Transportation
Film Photography | Urban Design
Hockey | Soccer | Baseball