

JOSEPH HSU

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ABOUT

Security/Software engineer with several years of experience in software development, project management, and embedded systems security research. Worked as a satellite flight software engineer, ran a startup, operated a consulting firm, worked as an undergraduate security researcher – while in the pursuit of a B.S in CS at Purdue. Passionate about all things security.

EDUCATION

PURDUE UNIVERSITY, WEST LAFAYETTE, IN

Bachelor of Science in Computer Science, May 2023

- Relevant Coursework: O-O Programming, Programming in C, Computer Architecture, Data Structures and Algorithms, Systems Programming, Cryptography, Operating Systems, Software Engineering, Computer Security, Information Systems

WORK EXPERIENCE

PURDUE RESEARCH LABS, WEST LAFAYETTE, IN

Lead Researcher, June 2023 – Present

- Lead a small team of security researchers in conducting a study involving disclosed CWE's (Common Weakness Enumeration)
- Collaborate with stakeholders, including developers, directors, and company representatives to identify potential critical vulnerabilities and bugs in CWE's which may affect services and products.
- Develop a methodology to identify critical hardware vulnerabilities and notify users of possible attacks before they happen.

NASA/US Air Force/Purdue AAE, WEST LAFAYETTE, IN

Flight Software Engineer, August 2022 – May 2023

- Manage software design and development team to meet product security requirements, while also conducting code reviews, and meeting with project stakeholders on a regular basis
- Plan, implement and monitor progress while also conforming to organization security measures and practices
- Write and develop custom software solutions for FEMTA CUBE-SAT payload (small satellites) to be deployed in space

FREELANCE SOFTWARE ENGINEER, CARMEL, IN

Software Developer/ Web Dev Consultant, May 2017 – Present

- Work closely with clients to understand their needs, provide technical support, and develop custom software solutions to meet their unique requirements.
- Maintain and update existing software and website applications, ensuring compatibility with current and future operating systems and web browsers

TEXTRON, AVILLA, IN

LDP IT Intern, May 2022 – August 2022

- Create macros and systems in excel to help keep track of product testing schedules, while also updating and writing documentation for Kautex-Textron security assets.
- Test, document, and deploy written custom SAP backup infrastructure to all Kautex-Textron locations in North America
- Write and develop custom SAP-related backup infrastructure to reduce overall downtime for manufacturing lines

SKILLS

- C, Java, python, HTML, JS, CSS, React, SQL
- Jira, Confluence, APIs, AWS (Lambda, Amplify)
- Scrum Master/Project management experience
- Android Studio, Flutter
- Automation/Software Engineering
- Hackathon/Competitive Hacking (CTF)

SELECTED PROJECTS

CUSTOM SAP BACKUP INFRASTRUCTURE

Intern project assigned at Avilla, Kautex-Textron plant. Created backup network page so that production could continue to make rack labels and track items even if Wi-Fi or SAP went down, leading to a decrease in overall downtime. Estimated to save the company ~\$60k/yr.

STUDY WITH CLASS

Placed 1st at Purdue's Hackathon BOILERMAKE IX. Wrote the frontend and helped with SQL integration. The end product was a program that created study groups based on parsed calendar inputs- looking for common free time in all given calendars. Built with Flask, Twilio's API, & python

ORGANIZATIONS & LEADERSHIP

- **CARY CLUB** – RA Representative, September 2021 - May 2023
- **SUPREME COURT OF PURDUE** – Clerk to Chief Justice, Feb 2021 - May 2023
- **PURDUE STUDENT GOVERNMENT** - Director of Technology, July 2021- May 2023
- **PURDUE FENCING** –Armorer, August 2022 – May 2023

References available upon request

