

Patrick Ptasznik

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EDUCATION

The University of Illinois Urbana-Champaign

Expected May 2025

Bachelor of Science in Computer Engineering

- Relevant Coursework: Data Structures, Computer Systems Engineering, Algorithms & Models of Computation, Computer Systems & Programming, Discrete Structures, Digital Systems Laboratory, Calculus I-III, Lin. Algebra

SKILLS

Programming Languages: C++, C, Python, Swift, HTML, CSS, JavaScript, System Verilog, x86 Assembly

Developer Tools: Git, Linux, Visual Studio, Xcode, Firebase, Docker, Anaconda, GNU Debugger, Valgrind, PyTorch, OpenCV, Xilinx Vivado, Intel Quartus, AutoCAD

Spoken Languages: Fluent proficiency in English and Polish, conversational proficiency in Spanish

EXPERIENCE

Mondelēz International

May 2024 – August 2024

Cybersecurity Software Engineer (Python)

East Hanover, NJ

- Created the most comprehensive and precise asset inventory at a Fortune 120 company using Python with Pandas and NumPy, processing large datasets to deliver a reliable asset catalog for all company technology teams.
- Developed a corporate database comparison script to ensure comprehensive scanning of all company assets through vulnerability management tools, enhancing asset oversight and security posture.
- Engineered a script to identify and report unscanned assets by vulnerability management tools within a specified timeframe, resulting in analyzing assets with prolonged scan gaps and facilitating timely investigation.

PROJECTS

Stancemaps

June 2024 – Present

Co-Founder, Software Developer (Swift)

- Developing a Swift-based iOS application utilizing Firebase for real-time database management and user authentication while creating custom navigation algorithms optimized for lowered cars to avoid road obstacles.
- Collaborating with legal teams to ensure patent compliance and intellectual property protection while implementing secure APIs and protocols to meet privacy and regulatory standards.

32-bit Linux Operating System

February 2024 – May 2024

Software Engineer (C, x86 Assembly)

Champaign, IL

- Developed a 32-bit Linux-based kernel using C & x86 Assembly, implementing memory-mapping, paging, virtualization, hardware interrupts, and device drivers for keyboard, mouse, and a real-time clock.
- Designed a Round-Robin scheduler for 3 terminals and up to 6 concurrent processes, supporting system calls, context switching, and kernel-user space paging with 4KB and 4MB pages.

FPGA-Based Endless Runner Game

October 2023 – December 2023

Game Developer (C, System Verilog)

Champaign, IL

- Worked with one teammate to design and build a functional simulation of Jetpack Joyride that implemented game mechanics, graphics, and responsive controls through hardware-software integration.
- Developed game logic in C including a scoring system, user input handling, and level design, while implementing core components such as a system bus, RAM, video display, and keyboard input for user control.

EXTRACURRICULARS

Association for Computing Machinery (ACM) – SIGPwny

August 2022 – Present

Member

Champaign, IL

- Attending workshops weekly and learning the fundamentals of computer cybersecurity such as web hacking, reverse engineering, binary exploitation, and more by participating in CTF challenges.
- Exploring the structure of computer systems and networks by analyzing their vulnerabilities.