

Nathan Wachholz

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EDUCATION

University of California, Santa Barbara

M.S. Computer Science, College of Engineering

Sept. 2022 – June 2023

- Research in Computational Geometry

B.S. Computing, College of Creative Studies

Sept. 2019 – June 2022

- Computational Geometry, CS Theory Seminars, Competitive Programming Seminars
- Graduate Security Seminars, Hacking Competitions with Shellphish

EXPERIENCE

Google

Software Engineering Intern

June 2022 – Sept. 2022

- Fuzzed Apple's XNU kernel as part of Project Zero

STEP Intern

June 2021 – Sept. 2021

- Developed a machine learning pipeline for detecting anomalies in behavior on admin.google.com
- Investigated dozens of models, features, and data labelling strategies to maximize model performance

STEP Intern

June 2020 – Sept. 2020

- Worked with 2 interns to develop ZoomTube, a website for enhancing discussions of recorded university lectures
- Created design docs, unit tests, and efficient development workflows

SIONYX

Software Engineering Contractor

Mar. 2022 – June 2022

- Created tools to automate QA in production factory

Teledyne FLIR

Software Engineering Intern

May 2018 – June 2021

- Under CTO Group, helped accelerate company-wide data curation and machine learning efforts via firconservator.com and conservator-cli
- Under Unmanned Aerial Vehicles, designed and built demos and product prototypes

PROJECTS

Self-playing Guitar: Capable of playing any MIDI file. Showcased at local museums, Makerfaire, and Facebook.

Protractr: Geometric constraint solver, with export to LaTeX. Made in Typescript with HTML5 canvas.

Camino: Low-level interrupt-based library for controlling an Arduino from Python over Serial.

Chaotris: Tetris with realistic physics, available on Android. Created in Java with libGDX.

classalerts.org: Receive alerts when a college class has a spot. Built with Python, Flask, Twilio, PayPal.

TECHNICAL SKILLS

Languages: Python, Java, Javascript, Typescript, C++, C, asm, HTML/CSS

Technology: Docker, Kubernetes, Tensorflow, GraphQL, Flask, React, Bootstrap, Android

Security: Reversing, binary exploitation, IDA, Ghidra, libFuzzer

Other: git, GitHub, gdb, Linux, Maven, Solidworks, machining, 3d printing

AWARDS

2020 - 2nd place in CSAW Undergrad CTF playing as part of Shellphish

New York University

2020 - 1st place in CSAW Undergrad CTF Quals playing as part of Shellphish

New York University

2018 - 1st place in CSAW Red Team Competition playing as part of 1064CBread

New York University

2018 - 1st place in picoCTF playing as part of 1064CBread

Carnegie Mellon University

2017 - Finalist in CSAW High School Forensics playing as part of 1064CBread

New York University

2017 - 1st place in picoCTF playing as part of 1064CBread

Carnegie Mellon University