

Amir Mazzarella

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EDUCATION

University of Michigan

Aug. 2020 – May 2023

Bachelor of Science Engineering in Computer Science, Minor in Mathematics

Ann Arbor, MI

- Overall GPA: 3.83/4.00, Major GPA: 3.84/4.00

EXPERIENCE

Google

May 2022 – Aug. 2022

Software Engineering Intern

Mountain View, CA

- Designed a **Python** package to automatically fetch, modify, and build open-source **FFmpeg** for use on internal repositories for the YouTube video processing pipeline, saving **hundreds** of engineering hours of manual updates
- Developed a Python package to enumerate, categorize, and display all YouTube video formats in a readable form
- Created numerous **FFmpeg** patches to improve the internal usage within video processing across all Google services

Rave Inc.

May 2021 – May 2022

Software Engineer

Remote

- Increased active users **by over 100,000** after implementing a safe and secure way to use Netflix in the app
- Led the team to implement code obfuscation and best security practices
- Developed solutions for interacting with various web streaming APIs and optimizing streaming code in the iOS, Android, and Desktop apps

Independent Security Research

Oct. 2018 – Aug. 2020

Self-Employed

- Reported and received a **\$5,000 bug bounty** for a cryptographic flaw in Netflix's MSL API (P2 severity)
- Identified and fixed a glaring vulnerability in Amazon's video streaming code to help keep both their content secure and end-users safe

PROJECTS

Netflix-1080p Chrome Extension 🐙 | *JavaScript*

Feb. 2018 – Present

- Developed a Chrome extension to force Netflix to play 1080p HD video and 5.1 surround sound audio in Chrome, something Netflix does not natively support
- Reverse engineered Netflix's obfuscated JavaScript player code to design a solution for better playback
- Currently has **over 2,500 stars** on GitHub and has **over 100,000 unique users** on Chrome

amirmazzarella.com 🐙 | *HTML5, CSS3, JavaScript, Python*

Feb. 2018 – Present

- Created personal website that hosts various JavaScript utilities and blog posts on security vulnerabilities in **web-streaming DRM** implementations
- Uses my custom fork of Flask-Blogging updated for **Bootstrap 4** and **Flask** as the backend

pymsl 🐙 | *Python*

Feb. 2018 – Jan 2020

- Developed a Python library for interacting with the Netflix MSL API, something that did not publicly exist
- Widely used by various Kodi applications that play Netflix media
- Proves to be a key library in finding any vulnerabilities within the Netflix MSL API

pymp4decrypt 🐙 | *Python*

Dec. 2017

- Developed the first public Python MP4 decrypter for **CENC (ISO/IEC 23001-7)** encrypted MP4s
- Benchmarked to be **over three times faster** in decrypting fragmented MP4s over public C++ counterparts

SKILLS

Languages: Python, C/C++, JavaScript, Java, HTML/CSS, Swift