Aaron **Lichtman**

SOFTWARE ENGINEERING · CYBERSECURITY

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Education

University of Illinois at Urbana-Champaign   *Champaign, IL*
B.S. IN COMPUTER SCIENCE AND LINGUISTICS   *Expected May 2020*

- GPA: 3.67/4.00
- Dean's List: 2017, 2018, 2019
- Coursework: Discrete/Data Structures, Computer Architecture, Systems Programming, Computer Security, Digital Forensics.

Experience

Security Engineering Intern   *Menlo Park, CA*
AUTHENTICATION E2E TEAM — FACEBOOK   *Summer 2019*

- Worked on a team securing authentication across the entire Facebook universe, including Whatsapp and Instagram.
- Designed, implemented and deployed a solution to prevent internal attackers from obtaining access to user accounts.
- Improved monitoring and auditing capabilities for the more than 1B daily authentication attempts.

iOS Software Engineering Intern   *Boston, MA*
iOS CORE TEAM — WAYFAIR   *Summer 2018*

- Worked on a team developing an iMessage extension in Swift and integrating it into the Wayfair iOS app.
- Allowed over 200,000 daily Wayfair customers to share furniture recommendations.
- Addressed challenging iOS security issues, balancing customer experience and data security.
- Led the Community Coding Day event and made a curriculum to teach 200+ middle schoolers basic CS concepts.

Developer — Plagiarism Detection Software   *Champaign, IL*
COURSE INFRASTRUCTURE TEAM — UNIVERSITY OF ILLINOIS — CS DEPARTMENT   *Jan. 2018 - May 2019*

- Developed plagiarism detection software that applies machine learning to code metrics and behavioral indicators.
- Analyzed natural language and parsed source code using the ANTLR and NLTK libraries.
- Researched transferability of key lessons to problems of intrusion and malware detection.

Lab Instructor — Java Programming Fundamentals   *Champaign, IL*
UNIVERSITY OF ILLINOIS — CS DEPARTMENT   *Aug. 2017 - Dec. 2017*

- Taught fundamentals of Java programming, algorithm analysis, and data structures in weekly two-hour lab sections.
- Worked one-on-one with struggling students to help them develop a deeper understanding of computer science.

Open Source Software

Malware Techniques   *Champaign, IL*
A COLLECTION OF TECHNIQUES USED IN LINUX AND MACOS MALWARE   *2019*

- Researched Linux and macOS malware, and implemented anti-VM, anti-debugging and anti-analysis measures.
- Implemented a Linux kernel-level rootkit that was undetected by standard rootkit checkers.

Stronghold — macOS Security Configuration Tool   *Champaign, IL*
DEVELOPER-FRIENDLY COMMAND LINE UTILITY   *2018*

- Developed a command line interface that guides users through step-by-step secure configuration for macOS.
- Secured the workstations of more than 20,000 macOS users and earned over 500 stars on GitHub.
- Gained familiarity with macOS security architecture.

Bitvision — Machine Learning-based Trading Platform   *Champaign, IL*
LINGUISTIC ANALYSIS AND MACHINE LEARNING APPLIED TO BITCOIN PRICE FORECASTING   *2018*

- Implemented a text analysis pipeline to analyze news headline sentiment for an automated trading algorithm.
- Designed and built a command line user interface using Blessed.js.
- Worked with a development partner to integrate the Python backend with the Javascript frontend.

Skills

Languages   Python, C, C++, Swift, Java
Tools   radare2, Ghidra, IDA, Wireshark, VMware / VirtualBox, Git