

# Matthew Roseman

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## Education

### Case Western Reserve University

May 2017 Cleveland, OH  
BA in Computer Science  
Minor in Mathematics

## Coursework

### Graduate Level

Digital Image Processing  
Cryptology

### Undergraduate Level

Logic Design & Computer Organization  
Software Craftsmanship  
Computer Architecture  
Computer Networks  
Operating Systems  
Database Systems  
Theoretical Computer Science  
Software Engineering  
Discrete Mathematics  
Linear Algebra

## Skills

### Languages

· Python · Java · C · SQL · Javascript  
· C++ · C# · MIPS Assembly Language  
· Golang

### Tools

· Vim · Git · MySQL · Eclipse  
· Visual Studio · MongoDB · PostgreSQL  
· Team Foundation Server

### Frameworks/Libraries

· JQuery · Rails · Flask · ASP.NET MVC  
· OpenSSL · Google Chrome Native Client  
· d3.js · React-Native

### Other

· Linux OS's (ubuntu, arch, debian)  
· Cryptography · Image Processing

## Links

Github: <https://github.com/mroseman95>  
LinkedIn: <https://www.linkedin.com/in/matthew-roseman-63414010b>

## Experience

### Certified Security Solutions | Software Engineering Intern working on Certificate Management System | Independence, OH [css-security.com](http://css-security.com)

May 2016-Aug 2016

- Given greater responsibility and shifted entirely into development from testing, while being tasked with more complex and difficult features to implement.
- Work included: modifications to complex databases, changes to backend certificate management, and creating frontend forms and general UI.
- Added ability to specify PFX custom name when creating a certificate by expanding user input and adding Microsoft SDK calls which led to increased PFX customization at creation. This was to satisfy a specific customer request.

May 2015-Aug 2015

- Participated in daily standups with main development team, contributing to decision making and problem solving.
- Quickly learned application structure (ASP.NET MVC framework) and began testing, fixing bugs, and implementing features in the system, improving overall application quality and robustness.
- Tested the certificate identification methods (i.e. cryptographic protocol identification) by creating specialized certificates (such as an RSA signed DH certificate) which led to me finding and fixing flaws in the system.

## Awards

### Uncommon Hacks | MLH Chicago hackathon 2016 & 2017

- Grand Prize (2016) · Best Security App (2016)
- Grand Prize (2017) · Most Technical Project (2017)

### Angel Hacks Cincinnati | Cincinnati Jr/Sr dev hackathon 2016

- Best use of HPE Haven OnDemand machine learning API
- Code4Impact Most Impactful Project

### Knurld Hackathon | Global Online Voice-Auth hackathon 2016

- Best Mobile App · Best in Show

### Kent Hack Enough | MLH Kent Hackathon 2016

- Grand Prize (unanimous decision)

## Personal Projects (can be found on my github)

### Crypto-Chat | Chrome Native Client (C) · OpenSSL RSA and AES encryption (C/C++)

Chrome Extension enabling end-to-end encrypted communication along any pre-existing chat channel (Slack, Facebook Messenger, Email, etc.). Goal is to make encryption usable by anyone, even someone with no prior understanding of the inner workings.

### Twitch-Scraper | Relational/NonRelational DBs · IRC (Python) · Web Scraping (Python)

Gather mass data from the video game streaming site Twitch and store in BCNF SQL database. Analyze user migrations between channels, language processing of chats to find patterns, capture interesting events in streams based on chat frequency and content, etc.

### Go-Capture-App | Image Processing (Matlab) · App Development (Android Studio)

Take a picture of a go-game and convert it to a digital form. This is done by thresholding and performing morphological image processing to find game pieces. Then the go-board grid is extrapolated from the pieces or, if there aren't enough pieces to extrapolate, found by using Hough transform. With the digital version of their game, players can continue online or score a finished game.