Zachary M. **Wimer**

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Education

Arizona State University (ASU)	**GPA: 4.0**
DOCTOR OF PHILOSOPHY: COMPUTER SCIENCE	*Aug. 2018 - PRESENT*
Rensselaer Polytechnic Institute (RPI)	**GPA: 4.0**
MASTER OF SCIENCE: COMPUTER SCIENCE	*Sept. 2014 - May 2018*
BACHELOR OF SCIENCE (DUAL MAJOR) : COMPUTER SCIENCE / COMPUTATIONAL MATHEMATICS	
MINOR: ECONOMICS	

Experience

Spectrum	**Software Engineer**, C++,cmake,gitlab,yaml,Docker	*Jan. 2019-PRESENT*
ASU	**Research Assistant**, SEFCOM lab	*Aug. 2018-PRESENT*
Private	**Tutor**, Calculus, Data structures, C++ basics	*Aug. 2013-PRESENT*
RPI	**Mentor**, RCOS	*Jan. 2017-Dec. 2017*
Lutron	**Co-op**, Computer Science	*May 2017-July 2017*
RPI	**Undergraduate TA (x2)**, Foundations of Computer Science	*Aug. 2015-Dec. 2015*
RPI	**Undergraduate TA**, Data Structures	*Jan. 2015-May 2015*

Interesting Skills

CTF experience, As I enjoy hacking, I often participate in CTFs. When I played with RPISEC we even made it to the world championships of hacking: Defcon CTF. *Twice*! We were top 10 in 2018! Currently I primarily play with Shellphish and Pwndevils; we just qualified for DEFCON CTF again!

Hacking, Specifically I am passionate about binary exploitation. I enjoy figuring out subtle or elegant ways to break things, especially when I use a system's own infrastructure to do so.

Linux Internals, Part of hacking is understanding a system very well; to that end I know quite a lot about the internals of Linux. I often read kernel code to figure out how to solve a CTF challenge.

C++ Template Meta-Programming, I enjoy the ability to code in an amazingly versatile, super-fast, compile-time, pure functional sub-language within C++, which is my favorite language.

Computational Mathematics Implementation, I know how to implement mathematics on computers to avoid floating point errors and how to optimize many matrix operations / calculations for speed.

Basic conversational Spanish, Much of my family is fluent in Spanish so I can hold a conversation in it.

Fun Projects

C++, CMake	**C-bind**, Dynamic partial function application in C	*Jan. 2018-PRESENT*
C++, CMake	**DrShadowStack**, A software defined dynamically implemented shadow stack utilizing DynamoRIO	*Feb. 2018-Jun. 2018*
Rust, UML	**smllr**, A (very) fast file de-duplicator	*Aug. 2017-Dec. 2017*
C++	**ZNC SelfMsg**, A ZNC module that allows all clients self message capability	*Aug. 2017-Dec. 2017*
C++, QT	**CAPP-Reporter**, A functional CAPP Reporter that works for RPI single and dual majors: RCOS.io/projects/zwimer/capp-reporter/profile	*Aug. 2016-Jan. 2017*
Java	**RPI-Campus-Paths**, A shortest path finder with GUI for the RPI Troy Campus	*Aug. 2015-Dec. 2015*

Activities

ASU	**Member**, Shellphish	*Aug. 2018-PRESENT*
ASU	**Member**, Pwndevils	*Aug. 2018-PRESENT*
RPI	**Member / Core**, RpiSec	*Jan. 2016-PRESENT*
RPI	**Member**, Upsilon Pi Epsilon	*Oct. 2016-PRESENT*
RPI	**Member**, Pi Mu Epsilon	*Feb. 2017-PRESENT*
RPI	**Mentor / Member**, Rensselaer Center for Open Source	*Jan. 2017-May 2018*

Honors & Awards

RPI	**Member**, CS honor society	*2016-PRESENT*
RPI	**Member**, Math honor society	*2017-PRESENT*
RPI	**Member**, RPI Dean's Honor List	*2014-May 2018*
RPI	**Recipient**, Received Leadership Scholarship	*2014-May 2018*
RPI	**Recipient**, RPI's 4.0 Award	*2016, 2017*
RPI	**Recipient**, RPI's Founders Award of Excellence	*2017*