

# Bader AlBassam

SECURITY RESEARCHER

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## Skills

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**Programming** Python, C/C++, C#, x86, ARM, CUDA, JAVA, LaTeX  
**Tools** Radare2, IDA Pro, Binary Ninja, GDB, AFL, Wireshark, Linux

## Education

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### Purdue University

PHD IN COMPUTER SCIENCE

- Advisor: Mathias Payer.
- Researching systems security in the HexHive group.

West Lafayette, IN

Aug. 2016 - PRESENT

### University of South Florida

M.S. IN COMPUTER ENGINEERING

- Advisor: Jay Ligatti.
- Masters Thesis: "Enforcing Security Policies on GPU Computing Through The Use Of Aspect-Oriented Programming Techniques".
- Top 25 accessed full-text graduate work among two million others in all subject areas in the ProQuest academic database.

Tampa, FL

Aug. 2014 - Aug. 2016

B.S. IN COMPUTER SCIENCE AND ENGINEERING

- Honors College Thesis: "A Method for Providing Navigation in A Vehicle Without the Use of GPS".

Aug. 2010 - May. 2014

## PUBLICATIONS

2018 **ACM CCS**, Block Oriented Programming: Automating Data-Only Attacks.

Toronto, Canada

## Work and Leadership

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### Bishop Fox

SECURITY ANALYST INTERN

- Analyzed and discovered vulnerabilities in various software and hardware systems.
- Assisted in development of CTF challenges for *Cactus CON*.
- Demonstrated capability in bypassing security mechanisms of an antitheft product on managers car.

Phoenix, AZ

May. 2018 - Aug. 2018

### b01lers (Capture The Flag team at Purdue)

CORE MEMBER & PRESIDENT AT 2017

- Ranked in the top 50 of thousands of teams worldwide.
- Lead a security bootcamp and a CTF to train newer members in security skills.
- Organized weekly meetings where we train in applied security skills.

West Lafayette, IN

Aug. 2016 - PRESENT

### Whitehatters Computer Security Club (Capture The Flag team at USF)

CORE MEMBER & SECRETARY (2012) + TREASURER (2015)

- Created an isolated hacking environment for safe practice of hacking for members to use.
- Developed expertise in hacking & security areas, foremost involving internals of UNIX based operating systems and various exploit techniques.

Tampa, FL

Aug. 2011 - Aug. 2016

## Teaching Experience

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### Purdue University.

CS 527: SOFTWARE SECURITY

- Teaching assistant for a class of 25 students.
- Provided lectures on *Reversing-Engineering* and various *Software Exploit development*.
- Developed biweekly CTF challenges for students to apply practical skills.

West Lafayette, IN

Jan. 2018 - May. 2018

CS 354: OPERATING SYSTEMS

- Teaching assistant for a class of 148 students.

Aug. 2017 - Dec. 2017

CS 354: OPERATING SYSTEMS

- Teaching assistant for a class of 123 students.
- Designed a new file system project which involved implementing a subset of the EXT3 file system on Linux.

Aug. 2016 - Dec. 2016

### Florida Center for Cyber Security.

USF GEN CYBER

- Instructor for a hands on hacking training camp of 20 highschool students.
- Funded through a \$100,000 grant from the National Security Agency.

Tampa, FL

July 2016

## Independent Projects

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### Home Security Research Lab

PERSONAL PROJECT

Aug. 2017 - PRESENT

- A home made network used to practice the skill of exploit development and security testing.
- Built a home lab using VMware ESXi, PfSense firewall, and various other tools to practice applied security skills.

### Wireless-Tracking-Framework

DEVELOPER

Jan. - May. 2016

- A hardware and software project to track the location of rogue wireless access points.
- Successfully presented the location of hidden access points to the user on a map.

## Certifications

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|------|---|----------------|
| 2012 | <b>Exploit Lab: Black Belt Edition</b> , Black Hat                    | Las Vegas, NV  |
| 2012 | <b>The Web Application Hackers Handbook, Live Edition</b> , Black Hat | Las Vegas, NV  |
| 2011 | <b>Exploit Lab</b> , Black Hat  | Abu Dhabi, UAE |

## Program Committees

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|------|---|---------------------|
| 2018 | <b>Lead Organizer</b> , 2018 b01lers b00tc4mp   | West Lafayette, IN  |
| 2018 | <b>Challenge Creator</b> , 2018 Cactus Con CTF  | Mesa, AZ            |
| 2018 | <b>Lead Organizer</b> , b01lers b00tc4mp  | West Lafayette, IN  |
| 2018 | <b>Lead CTF Challenge Creator</b> , International Summer School on Information Security and Protection (ISSISP) | Canberra, Australia |
| 2017 | <b>Lead Organizer</b> , b01lers b00tc4mp  | West Lafayette, IN  |
| 2017 | <b>Artifact Evaluation</b> , European Secure Software and Systems (ESSoS)                                       | Bonn, Germany       |
| 2017 | <b>Video Recording Co-Chair</b> , Principles of Programming Languages (POPL)                                    | Paris, France       |
| 2016 | <b>Video Recording Co-Chair</b> , Programming Language Design and Implementation (PLDI)                         | Santa Barbara, CA   |
| 2016 | <b>Student Volunteer Co-Chair</b> , Principles of Programming Languages (POPL)                                  | St. Petersburg, FL  |
| 2012 | <b>Organizer &amp; Challenge Designer</b> , 2012 USF SuperNerd CTF  | Tampa, FL           |
| 2012 | <b>Lead Developer</b> , 2012 USF Engineering Expo   | Tampa, FL           |
| 2012 | <b>Organizer</b> , 2012 WCSC Binary Bootcamp  | Tampa, FL           |

## Honors & Awards

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|------|---|-------------------|
| 2017 | <b>Scholarship Recipient</b> , BlackHat     | Las Vegas, NV     |
| 2016 | <b>Distinguished Volunteer Award</b> , PLDI | Santa Barbara, CA |

### CAPTURE THE FLAG HACKING COMPETITIONS

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|------|---|--------------------|
| 2019 | <b>19th Place (5th academic)</b> , TAMU CTF | Online             |
| 2018 | <b>6th Place</b> , Boiler CTF               | West Lafayette, IN |
| 2018 | <b>2nd Place</b> , HackFortress             | Las Vegas, NV      |
| 2018 | <b>13th Place</b> , UCSB iCTF               | Online             |
| 2018 | <b>2nd Place</b> , Hack Fortress            | Las Vegas, NV      |
| 2017 | <b>3rd Place</b> , CAN-CWiC CTF             | Online             |
| 2017 | <b>16th Place</b> , DefCamp Qualifiers CTF  | Online             |
| 2017 | <b>59th Place</b> , HackCenter Enigma CTF   | Online             |
| 2016 | <b>20th Place</b> , CSAW Qualifiers         | Online             |
| 2015 | <b>16th Place</b> , CSAW Qualifiers         | Online             |
| 2013 | <b>41st Place</b> , Ghost in the Shellcode  | Online             |
| 2013 | <b>12th Place</b> , CSAW Qualifiers         | Online             |
| 2012 | <b>30th Place</b> , Mozilla CTF             | Online             |
| 2012 | <b>19th Place</b> , Plaid CTF               | Online             |
| 2011 | <b>9th Place</b> , EnoWars                  | Online             |
| 2011 | <b>4th Place</b> , CSAW Qualifiers          | Online             |
| 2011 | <b>3rd Place</b> , Ghost in the ShellCode   | Online             |
| 2010 | <b>4th Place</b> , DEFCON 18 OpenCTF        | Las Vegas, NV      |