

# Bader **AlBassam**

SECURITY RESEARCHER

✉ badertalbassam@gmail.com | 🏠 www.gh0s1.com | 📧 balbassam | 📄 baderalbassam | 🐦 @gh0s1

## Skills

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**Programming** Python, C, C++, C#, LLVM, x86, ARM, LaTeX

**Tools** Angr, Radare2, IDA Pro, Binary Ninja, Docker, GDB, AFL, Wireshark, Linux

## Education

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### Purdue University

M.S. IN COMPUTER SCIENCE. GPA 3.56

- Performed studies in pursuit of a PhD before exiting program.

West Lafayette, IN

Aug. 2016 - May. 2022

### University of South Florida

M.S. IN COMPUTER ENGINEERING. GPA 3.63

- 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 GPA 3.48

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

Aug. 2010 - May. 2014

## Publications

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### IEEE S&P (17.8% acceptance rate)

SoK SGX.FAIL: HOW STUFF GETS EXPOSED

Stephan van Schaik, Alex Seto, Thomas Yurek, Adam Batori, **Bader AlBassam**, Christina Garman, Daniel Genkin, Andrew Miller, Eyal Ronen, Yuval Yarom

San Francisco, CA

2024

### ACM CCS (17% acceptance rate)

BLOCK ORIENTED PROGRAMMING: AUTOMATING DATA-ONLY ATTACKS.

Kyriakos K. Isoglou, **Bader AlBassam**, Trent Jaeger, Mathias Payer

Toronto, CA

2018

### Real World Crypto Symposium

SoK SGX.FAIL: HOW STUFF GETS EXPOSED

**Bader AlBassam**, Adam Batori, Alex Seto, Stephan van Schaik, Thomas Yurek, Christina Garman, Daniel Genkin, Andrew Miller, Eyal Ronen, Yuval Yarom

Tokyo, JP

2013

## Work and Leadership

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### Apple Inc.

SECURITY ENGINEER

- Part of the Apple Product Security Team working on immediate risks to Apple's customers.
- Collaboration with engineering teams on all of Apple's products on security issues.
- Creating tooling to help find software bugs.

Cupertino, CA

May. 2022 - PRESENT

### Arizona State University

RESEARCH AIDE

- Visiting scholar ASU's SEFCOM research lab.
- Worked on research involving automatic exploit generation on the *Angr* binary analysis framework.

Phoenix, AZ

May. 2019 - Aug. 2019

### Bishop Fox

SECURITY ANALYST INTERN

- Analyzed and discovered vulnerabilities in various software and hardware systems.
- Assisted in development of CTF challenges for *Cactus CON*.
- Developed bypasses of automotive anti-theft system using hardware exploitation techniques.

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.

West Lafayette, IN

Aug. 2016 - 2019

### 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

## Certifications

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

## Honors & Awards

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### AWARDS

2023	<b>\$75,000 Bug-bounty</b> , <a href="https://scrt.network/blog/notice-successful-resolution-of-xapic-vulnerability">https://scrt.network/blog/notice-successful-resolution-of-xapic-vulnerability</a>	<i>SCRT.Network</i>
2020,2021	<b>Department of Computer Science Top Graduate Teaching Assistant</b> , Purdue	<i>West Lafayette, IN</i>
2017	<b>Scholarship Recipient</b> , BlackHat	<i>Las Vegas, NV</i>
2016	<b>Distinguished Volunteer Award</b> , PLDI	<i>Santa Barbara, CA</i>

### HIGHLIGHTED CAPTURE THE FLAG HACKING COMPETITIONS

2023	<b>11th Place</b> , DEFCON CTF Finals (As Shellphish player)	<i>Las Vegas, NV</i>
2022	<b>13th Place</b> , DEFCON CTF Finals (As Shellphish player)	<i>Las Vegas, NV</i>
2021	<b>14th Place</b> , DEFCON CTF Finals (As Shellphish player)	<i>Las Vegas, NV</i>
2020	<b>7th Place</b> , DEFCON CTF Finals (As Shellphish player)	<i>Las Vegas, NV</i>
2019	<b>1st Place</b> , Raymond James CTF (Purdue Team Captain)	<i>Tampa, FL</i>
2019	<b>10th Place</b> , DEFCON CTF Finals (As Shellphish player)	<i>Las Vegas, NV</i>
2018	<b>2nd Place</b> , HackFortress	<i>Las Vegas, NV</i>
2018	<b>13th Place</b> , UCSB iCTF	<i>Online</i>
2019	<b>19th Place (5th academic)</b> , TAMU CTF	<i>Online</i>
2018	<b>2nd Place</b> , Hack Fortress	<i>Las Vegas, NV</i>
2017	<b>3rd Place</b> , CAN-CWIC CTF	<i>Online</i>
2011	<b>3rd Place</b> , Ghost in the ShellCode	<i>Online</i>
2010	<b>4th Place</b> , DEFCON 18 OpenCTF	<i>Las Vegas, NV</i>

## Service to Community

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### ACADEMIC SERVICE

2017	<b>Artifact Evaluation</b> , European Secure Software and Systems (ESSoS)	<i>Bonn, Germany</i>
2017	<b>Video Recording Co-Chair</b> , Principles of Programming Languages (POPL)	<i>Paris, France</i>
2016	<b>Video Recording Co-Chair</b> , Programming Language Design and Implementation (PLDI)	<i>Santa Barbara, CA</i>
2016	<b>Student Volunteer Co-Chair</b> , Principles of Programming Languages (POPL)	<i>St. Petersburg, FL</i>

### SECURITY COMMUNITY SERVICE

2019	<b>Lead Organizer</b> , 2019 b01lers b00tc4mp	<i>West Lafayette, IN</i>
2018	<b>Challenge Creator</b> , 2018 Cactus Con CTF	<i>Mesa, AZ</i>
2018	<b>Lead Organizer</b> , b01lers b00tc4mp	<i>West Lafayette, IN</i>
2018	<b>Lead CTF Challenge Creator</b> , International Summer School on Information Security and Protection (ISSISP)	<i>Canberra, Australia</i>
2017	<b>Lead Organizer</b> , b01lers b00tc4mp	<i>West Lafayette, IN</i>
2012	<b>Organizer &amp; Challenge Designer</b> , 2012 USF SuperNerd CTF	<i>Tampa, FL</i>

## Teaching Experience

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CS 59200-ICS: IoT/CPS SECURITY INVITED GUEST LECTURER	<i>Jan. 31 2022, Feb. 02 2022</i>
<ul style="list-style-type: none"><li>Invited as a guest lecturer by Dr. Berkay Celik to teach a section on <b>Binary Analysis</b>.</li></ul>	
CS 5100: FOUNDATIONAL PRINCIPLES OF INFORMATION SECURITY	<i>Jan. 2022 - May. 2022</i>
<ul style="list-style-type: none"><li>Responsible for entirety of the class and all of the content.</li></ul>	
CS 250: COMPUTER ARCHITECTURE	<i>Jan. 2022 - May. 2022</i>
<ul style="list-style-type: none"><li>Teaching assistant for a class of 209 students.</li></ul>	
CS 527: SOFTWARE SECURITY	<i>Jan. - May. 2020, 2021, 2022</i>
<ul style="list-style-type: none"><li>Teaching assistant for a class of 24 students. Voted <b>Top Graduate TA among the department</b>.</li><li>Developed biweekly CTF challenges as assignments for students to apply practical skills.</li><li>Managed a cloud infrastructure for the students to participate in using <i>Ansible</i>, <i>Docker</i>, and <i>Google cloud</i>.</li></ul>	
CS 354: OPERATING SYSTEMS	<i>Aug. - Dec. 2016, 2017</i>
<ul style="list-style-type: none"><li>Teaching assistant for a class of 148 students.</li><li>Designed a new file system project which involved implementing a subset of the EXT3 file system on Linux.</li></ul>	
USF GEN CYBER	<i>July 2016</i>
<ul style="list-style-type: none"><li>Instructor for a hands-on hacking training camp of 20 highschool students.</li><li>Funded through a \$100,000 grant from the <i>National Security Agency</i>.</li></ul>	