

# Jack Wampler

Graduate Student Pursuing Ph.D. in Computer Privacy & Security at CU Boulder

## WORK EXPERIENCE

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June 2017 – Present

Sandia National Laboratories – Livermore, CA

### Intern R&D - Undergrad

R&D intern in Center for Cyber-Defenders program.

- Created API for automated forensic memory analysis using python and volatility framework.
- Implemented machine learning algorithms and devised distance metrics for big data analysis and clustering of enterprise hosts.

June 2015 – June 2016

UC San Diego – La Jolla, CA

### Lead Technician ITS

Lead Network Technician for Information Technology Services. Troubleshooting network connectivity issues; working directly with users in person and over the phone.

- Repaired computers and removed Malware.
- Facilitated interpersonal relations and practice real-time problem solving.
- Provided tier one support for campus enterprise services.

June 2016 – August 2016

Sandia National Laboratories – Livermore, CA

### Intern R&D - Undergrad

R&D intern in Center for Cyber-Defenders program. Internet of Things Security, Android Reverse Engineering & Transition to Practice: evaluating technologies for market readiness.

- Reverse Engineered Android applications and Investigated Internet of Things devices to evaluate and advise a general model for IoT security.
- Created a test environment to evaluate the efficacy of an academic technology in an enterprise setting.

June 2015 – June 2016

Sandia National Laboratories – Albuquerque, NM

### Intern R&D - Undergrad

Mobile Forensics and Desktop Automation Undergraduate Intern working with iOS Mobile Device Management.

- Developed Automation system to remotely evaluate end user experience on OS X. Evaluated the network latency for internet applications.
- Investigated threats to enterprise MDM Profile through apps, permissions, jailbreaking, etc.

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## EDUCATION

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2013 – 2017 **B.S. Computer Engineering**  
UC San Diego  
Mathematics Minor

2017 – Present **Grd. Computer Engineering**  
CU Boulder  
Computer Security Focus

## COURSEWORK

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- Computer Security
- Networking
- Cryptography
- Statistics
- Discrete Mathematics
- Software Engineering
- Computer Architecture
- Digital Design
- Data Structures
- Algorithms C/ C++/ Java
- Analog Circuits
- Components & Circuits Lab

## COMMUNICATION SKILLS

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ENGLISH Native Speaker  
SPANISH Oral/Written: intermediate

## SOFTWARE SKILLS

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EXPERIENCED Python, git, bash, Linux, HTML, CSS, Javascript  
INTERMEDIATE C/C++, MySQL, Mongo, Network Security, Java  
BASIC LEVEL Cisco-IOS-Enterprise

## PROJECTS

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- **Security Projects** – [ *UCSD CSE 127* ]

Implement buffer overflow attack against fingerd on a vax virtual machine. Implement packet inspection and manipulation code for HTTP connection on a virtual network in mininet. Performs cross-site request forgery (CSRF), cookie theft, and cross-site scripting (XSS) attacks against a vulnerable website in a virtual machine. JIT spraying attack against a vulnerable version of V8 JavaScript compiler. Rainbow table computation and attack against a list of hashed passwords.

- **Speech Compression** – [ *UCSD ECE 174* ]

Reduces a .wav sound-file to a component Matrix using Linear compression and the pseudo-inverse. Reconstructs using a FIR filter and evaluates MSE across different levels of quantization. Implemented in Matlab.

- **Raspberry-Pi Cluster**

Networks and interfaces multiple Raspberry-Pi devices as nodes in a cluster. Distributed execution using slurm process manager and munge keys.