Steffanie R Bisinger

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EDUCATION

Iowa State University   Ames, IA
   Master of Science, Information Assurance   *GPA 3.75/4.0*   May 2018
      Major Professor: Dr. Doug Jacobson
      Emphasis: Secure and reliable computing
Iowa State University   Ames, IA
   Bachelor of Science, Software Engineering   May 2016

RESEARCH EXPERIENCE

Argonne National Laboratory   Ames, IA
Co-op   August 2017-Present
- Develop a general standard for evaluating moving target defense solutions
- Write papers on moving target defense solutions exploring the ramifications of such systems on performance and security
- Implement code quality controls for the group's research code bases. This will help the group get their code ready to be used in a production environment and continue to assure that the code is of acceptable quality as new features are added.

Research Assistant   May 2017-August 2017
- Transform a research code base into production-ready code by auditing it, refactoring the code, and adding unit tests.
- Create graphics and research poster for a project
- Co-authored a paper on a moving target defense solution for web servers

Iowa State University   Ames, IA
Research Assistant   November 2013-Present
   ISEAGE: This lab handles both the logistics and the virtual environment for the Iowa State Cyber Defense Competitions, of which there are five per year: two for Iowa State students, one for community college students, one for high school students, and a national competition.
- Rewrite the scoring system's availability testing functionality using Celery, a library for creating and managing worker processes. This allows the scoring system to better utilize server resources under heavy load.
- Directed the 2015 National Cyber Defense Competition
- Created vulnerable applications for Cyber Defense Competitions
- Led Red Team in attacks against Blue Teams' systems
- Led Green Team in assessing the usability of Blue Teams' systems

PROFESSIONAL EXPERIENCE

Rockwell Collins   Cedar Rapids, IA
Network Security Intern   May 2016-August 2016
- Assisted in replacing and upgrading access token infrastructure
- Analyzed and cleaned up firewall rules
- Modified Perl scripts to aid in gathering and analyzing firewall logs

Workiva   Ames, IA
Security Intern   May 2015-August 2015
- Assessed the security of internal web applications using tools like BurpSuite and custom Python code
- Assisted with company-wide security training by developing a tool for visualizing the performance of individual employees in previous trainings
- Contributed code to fix minor bugs in the company's main product

PUBLICATIONS

Dynamic Application Rotational Environment. In progress.

OUTREACH
FIRST Tech Challenge   Various Locations, IA
Volunteer   January 2016-May 2017
- Advised teams on how best to fix technical difficulties with their robots.
- Monitored wireless traffic at competitions and directed teams which channels would give them the best performance.

USA Archery   Alburnett, IA
Level 2 Coach   August 2013-August 2016
- Taught archers techniques for performing under stress
- Tuned equipment for better performance
- Prepared archers and their parents for traveling to major tournaments

Alburnett Archery   Alburnett, IA
Assistant Coach   January 2011-May 2013
- Helped prepare students for national tournaments
- Taught students techniques for performing under stress

PROFESSIONAL DEVELOPMENT
Cyber Defense Competition
- Nationals 2014: 1st place team, captain
- Fall 2013: 1st place team, captain

National Cyber Analyst Challenge
- Fall 2016: Finalist team
- Fall 2015: 1st place team

HONORS AND AWARDS
- CyberCorps Scholarship for Service   August 2016-May 2018
- Iowa State Archery Association Scholarship   Fall 2012-Spring 2013
- Deans List   Spring 2012

AFFILIATIONS

CyberCorps Scholarship for Service
Information Assurance Student Group

LANGUAGES

Spanish: Read, write, and speak with elementary proficiency

TECHNICAL SKILLS

Programming Languages: Python, Java, C, Scala, Erlang, Bash, HTML5, CSS, Javascript, Perl

Software Development: PyCharm, Eclipse, GCC, GDB

Version Control: Git

Web Application Frameworks: Django, Flask

Web Servers: Apache Httpd, Nginx

Large Dataset Analysis Tools: Apache Hadoop, Apache HDFS, Apache Spark

Packet Capture/Analysis: Wireshark, T-Shark

Reverse Engineering/Forensics: radare2, Volatility, peepdf, binwalk, Cuckoo sandbox, Autopsy/TSK, IDA Pro

General Exploitation: Metasploit with custom modules

Wireless Tools: Aircrack-ng, Reaver