Michael K. Mabey

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EDUCATION

PhD Computer Science, Information Assurance — Tempe, AZ
Arizona State University — GPA 3.81 — May 2016

M.S. Computer Science, Information Assurance — Tempe, AZ
Arizona State University — GPA 3.58 — August 2011
Thesis: Collaborative Digital Forensics: Architecture, Mechanisms, and Case Study

B.S. Computer Science, Information Systems — Logan, UT
Utah State University — GPA 3.25 — May 2009

SKILLS

Digital Forensics	Python	C++	HTML + CSS
Cloud Computing	Virtualization	PHP	MySQL/phpMyAdmin

WORK EXPERIENCE

Research Assistant — Tempe, AZ
Security Engineering for Future Computing (SEFCOM) Lab, ASU — Nov 2009 – Present
Advisor: Prof. Gail-Joon Ahn
Sponsors: Department of Energy and National Science Foundation.

- Recipient of the Information Assurance Scholarship Program (IASP) from the Department of Defense for the 2012-2013 school year.
- Developed an approach to acquire a suspect's email from a web client by reestablishing persistent cookie sessions stored by a browser. Wrote an accompanying Python script that used Selenium to then interact with the online email account.
- Designed and implemented the core components of a modular, highly scalable, collaboration-centric digital forensic framework built on the OpenStack cloud architecture. Functions of the components included distributed job scheduling, storage management, and concise evidence representation and transmission.
- Set up and maintained a virtual private network (VPN) using OpenVPN for allowing remote access to lab equipment by members of the SEFCOM lab.
- Acted as a mentor for an undergraduate student that otherwise would not have pursued a master's degree, and collaborated with him on research for his thesis.
- Researched methods for performing forensic acquisition on Android devices.
- Leader and deployment point of contact of the 2009 and 2010 ASU teams in the International Capture the Flag competition sponsored by University of California, Santa Barbara.

Teaching Assistant Tempe, AZ
Arizona State University Aug 2010 – Present

- Instructor for FSE 100, Introduction to Engineering multiple semesters: Fall 2011, Spring 2012, Fall 2012, and Spring 2013
- Spring 2011: Assistant to Dr. Gail-Joon Ahn for CSE 467 Data & Information Security
- Fall 2010: Assistant to Dr. Gail-Joon Ahn for CSE 465 Information Assurance

Graduate Student Summer Intern Albuquerque, NM
Sandia National Laboratories May 2011 – Jul 2011

- Helped design a dynamic malware analysis framework built on OpenStack that allowed incident responders to define highly customizable analysis environments and use arbitrary analysis tools in either triage or manual analysis mode.
- Wrote Python scripts to automate the setup process for using a SheevaPlug computer as a wireless intrusion detection agent running Kismet.

Graduate Student Recruitment Specialist/Webmaster Logan, UT
Electrical & Computer Engineering Department, USU Jul 2006 – Aug 2009

- Primary responsibilities included maintaining and augmenting the department website using PHP, MySQL, and other basic web technologies like CSS, JavaScript, and an SMTP server.
- Replaced a MS Access database by porting the old data to a MySQL server and creating a set of Python programs with the Dabo framework that interfaced with the database.
- Wrote Python scripts to convert tab-delimited and Excel formatted data to SQL entries.
- Responded to inquiries from potential domestic and international graduate students.

RELEVANT SCHOOL PROJECTS

- Implemented Python scripts that interpreted MBRs and boot sectors for FAT file systems.
- Wrote a program in Python to scan C and C++ source files for commonly used but insecure function calls, which then suggested to the user more secure yet equivalent library functions.
- Created a web-based interactive learning module designed to teach basic principles of password strength and symmetrical encryption using Python, JavaScript, and Ajax.
- Wrote a program in C++ that accepted a file containing cipher text created with a symmetrical encryption algorithm and attempted to discover the original key and plain text.
- Demonstrated a buffer overflow attack on a C++ program using gdb.
- Configured a Linux machine to be a DNS server, a DHCP server, and a web server that used SSL and authentication via htaccess rules.
- Set up a basic logging system in Linux with Snort and syslog.

REFERENCES

Dr. Gail-Joon Ahn
Title: Associate Professor in Computer Science and Engineering Department at ASU
Relation: Faculty Advisor and Supervisor in the SEFCOM Lab since Nov 2009
Phone: 480-965-9007
Email: Gail-Joon.Ahn@asu.edu

Dr. Chad Mano
Title: Former Assistant Professor in the Computer Science Department at USU
Relation: Computer Security teacher from Aug 2008 – May 2009
Phone: 435-797-0959
Email: chad.mano@usu.edu