

# Michael K. Mabey

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## EDUCATION

### PhD Computer Science, Information Assurance

Arizona State University

GPA 3.81

Tempe, AZ

May 2016

### M.S. Computer Science, Information Assurance

Arizona State University

GPA 3.58

Tempe, AZ

August 2011

Thesis: Collaborative Digital Forensics: Architecture, Mechanisms, and Case Study

### B.S. Computer Science, Information Systems

Utah State University

GPA 3.25

Logan, UT

May 2009

## SKILLS

Digital Forensics

Python

C++

HTML + CSS

Cloud Computing

Virtualization

PHP

MySQL/phpMyAdmin

## WORK EXPERIENCE

### Research Assistant

Security Engineering for Future Computing (SEFCOM) Lab, ASU

Tempe, AZ

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 and 2013-2014 school years.
- 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**  
Arizona State University

Tempe, AZ  
Aug 2010 – Present

- Instructor for FSE 100, Introduction to Engineering multiple semesters: Fall 2011, Spring 2012, Fall 2012, Spring 2013, and Fall 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**  
Sandia National Laboratories

Albuquerque, NM  
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**  
Electrical & Computer Engineering Department, USU

Logan, UT  
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](mailto: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](mailto:chad.mano@usu.edu)