

# Michael K. Mabey

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## EDUCATION

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- PhD Computer Science — Information Assurance** *(expected) May 2017*  
Arizona State University Tempe, AZ  
*Research Topics:* Email forensics, Chrome OS forensics, Collaborative forensics
- M.S. Computer Science — Information Assurance** *Aug 2011*  
Arizona State University Tempe, AZ  
*Committee:* Gail-Joon Ahn (Chair), Stephen S. Yau, Dijiang Huang  
*Thesis:* Collaborative Digital Forensics: Architecture, Mechanisms, and Case Study
- B.S. Computer Science — Information Systems** *May 2009*  
Utah State University Logan, UT

## EXPERIENCE

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- Research Assistant** *Nov 2009 – Present*  
Security Engineering for Future Computing (SEFCOM) Lab, ASU Tempe, AZ  
*Lab Directors:* Gail-Joon Ahn, Adam Doupe  
*Sponsors:* Department of Energy, National Science Foundation
- Recipient of the Department of Defense Information Assurance Scholarship Program (IASP) from 2012–2016 (4 school years).
  - Researched forensic techniques for **Chrome OS/Chromium OS** by creating tools in **Python** and using **libvirt** to interface with a **KVM/QEMU** hypervisor. (In progress)
  - Developed a web email forensic acquisition approach that reestablishes persistent cookie sessions stored by a browser, and automated the process using **Python** and **Selenium**.
  - 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.
- Teaching Assistant** *Aug 2010 – Dec 2015*  
Arizona State University Tempe, AZ
- CSE 465 Information Assurance with Dr. Gail-Joon Ahn: Fall 2010, Fall 2015.
  - CSE 469 Computer and Network Forensics with Dr. Gail-Joon Ahn: Spring 2015.
  - FSE 100 Introduction to Engineering with Dr. Ryan Meuth: Spring 2014.
  - CSE 423/424 Capstone I and CSE 485/486 Capstone II with Dr. Debra Calliss: Spring 2014.
  - CSE 467 Data & Information Security with Dr. Gail-Joon Ahn: Spring 2011.
- SAT/ACT Instructor** *Sep 2015 – Oct 2015*  
Minerva Learning, LLC Chandler, AZ
- Individual tutor for a high school student preparing for the PSAT.
- Summer Intern** *Jul 2015 – Sep 2015*  
Arizona Cyber Threat Response Alliance (ACTRA) Phoenix, AZ
- Designed an operationalized workflow for AZ Infragard member organizations to share **threat intelligence** through a common **STIX/TAXII** platform.

**Teaching Assistant (Instructor of Record)**

Arizona State University

Aug 2011 – Dec 2014

Tempe, AZ

- CSE 465 Information Assurance: Fall 2014.
- FSE 100 Introduction to Engineering: Fall 2011 – Fall 2013 (5 semesters).

**Student Trainee (Civilian)**

US Army

Jun 2013 – Aug 2013, Jun 2014 – Aug 2014

Fort Meade, MD

- Summer internships in connection with DoD IASP scholarship.

**Graduate Student Summer Intern**

Sandia National Laboratories

May 2011 – Jul 2011

Albuquerque, NM

- Helped design a dynamic malware analysis framework built on **OpenStack**, allowing incident responders to define customizable analysis environments and use arbitrary analysis tools in 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**.

**PUBLICATIONS (SELECTED)**

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- [1] **Mike Mabey**, Adam Doupé, Ziming Zhao, and Gail-Joon Ahn. "dbling: Identifying Extensions Installed on Encrypted Web Thin Clients". In: *Digital Investigation* (2016). The Proceedings of the Sixteenth Annual DFRWS Conference (In Press). DOI: 10.1016/j.diin.2016.04.007 [↗](#).
- [2] **Mike Mabey** and Gail-Joon Ahn. "Towards Collaborative Forensics". In: *Information Reuse and Integration in Academia and Industry*. Ed. by Tansel Özyer, Keivan Kianmehr, Mehmet Tan, and Jia Zeng. Springer Vienna, 2013, pp. 237–260. ISBN: 978-3-7091-1537-4. DOI: 10.1007/978-3-7091-1538-1\_12 [↗](#).
- [3] Justin Paglierani, **Mike Mabey**, and Gail-Joon Ahn. "Towards Comprehensive and Collaborative Forensics on Email Evidence". In: *Collaborative Computing: Networking, Applications and Worksharing (Collaboratecom), 2013 9th International Conference Conference on*. October 2013, pp. 11–20. DOI: 10.4108/icst.collaboratecom.2013.254125 [↗](#).
- [4] **Mike Mabey** and Gail-Joon Ahn. "Towards Collaborative Forensics: Preliminary Framework". In: *Information Reuse and Integration (IRI), 2011 IEEE International Conference on*. August 2011, pp. 94–99. DOI: 10.1109/IRI.2011.6009527 [↗](#).

**TECHNICAL STRENGTHS & QUALIFICATIONS**

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<b>Research Interests</b>	Digital Forensics, Cyber Security
<b>Programming Languages</b>	Python, C/C++, HTML, CSS, $\text{\LaTeX}$
<b>Forensic Tools</b>	FTK, Sleuth Kit & Autopsy, dd, HxD, etc.
<b>Protocols &amp; APIs</b>	JSON, XML, REST, STIX/TAXII
<b>Network Administration/Security</b>	OpenVPN, Wireshark, ufw, Apache, lighttpd
<b>Operating Systems</b>	Windows, Linux, Chrome OS
<b>Databases</b>	MySQL, SQLite

**AWARDS AND ACTIVITIES**

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- DoD Information Assurance Scholarship Program (IASP) Recipient (4 years) 2012 – 2016
- Inducted into Eta Kappa Nu (HKN) Engineering Honors Society Nov 2010
- Team Leader — ASU team in the UCSB International CTF 2009, 2010, 2014, 2015
- Eagle Scout, Boy Scouts of America 2002
- Tallest Graduate Student at ASU (not an actual award)