

# Michael K. Mabey

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## EDUCATION

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<b>PhD Computer Science (Information Assurance)</b> Arizona State University   GPA 3.74	<i>Dec 2016</i> Tempe, AZ
<b>M.S. Computer Science (Information Assurance)</b> Arizona State University   GPA 3.58 <i>Thesis:</i> Collaborative Digital Forensics: Architecture, Mechanisms, and Case Study	<i>Aug 2011</i> Tempe, AZ
<b>B.S. Computer Science (Information Systems)</b> Utah State University   GPA 3.25	<i>May 2009</i> Logan, UT

## EXPERIENCE

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<b>Research Assistant</b> Security Engineering for Future Computing (SEFCOM) Lab, ASU <i>Advisor:</i> Prof. Gail-Joon Ahn <i>Sponsors:</i> Department of Energy and National Science Foundation	<i>Nov 2009 – Present</i> Tempe, AZ
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- Recipient of the Department of Defense Information Assurance Scholarship Program (IASP) for the 2012–2013, 2013–2014, and 2014–2015 school years.
- Researched forensic techniques for **Chrome OS/Chromium OS** by creating tools in **Python** and using **libvirt** to interface with **KVM/QEMU**. (Project in progress.)
- Developed a web email acquisition approach that reestablishes persistent cookie sessions stored by a browser, and automated the process using **Python** and **Selenium** [2].
- 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 [5, 6].
- Set up and maintained an **OpenVPN** installation for the SEFCOM lab.

<b>Teaching Assistant</b> Arizona State University	<i>Aug 2010 – Present</i> Tempe, AZ
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### *Instructor positions:*

- CSE 465 Information Assurance: Fall 2014.
- FSE 100 Introduction to Engineering: Fall 2011, Spring 2012, Fall 2012, Spring 2013, and Fall 2013.

### *Assistant positions:*

- 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.
- CSE 465 Information Assurance with Dr. Gail-Joon Ahn: Fall 2010.

<b>Student Trainee</b> US Army	<i>Jun 2013 – Aug 2013, Jun 2014 – Aug 2014</i> Fort Meade, MD
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- Summer internships in connection with DoD IASP scholarship.

- 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

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- [1] Wonkyu Han, Mike Mabey, Gail-Joon Ahn, and Tae Sung Kim. Simulation-Based Validation for Smart Grid Environments: Framework and Experimental Results. In Thouraya Bouabana-Tebibel and Stuart H. Rubin, editors, *Integration of Reusable Systems*, volume 263 of *Advances in Intelligent Systems and Computing*, pages 27–44. Springer International Publishing, 2014. ISBN 978-3-319-04716-4. DOI:10.1007/978-3-319-04717-1\_2.
- [2] 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, pages 11–20. October 2013.
- [3] Wonkyu Han, Mike Mabey, and Gail-Joon Ahn. Simulation-Based Validation for Smart Grid Environments. In *Information Reuse and Integration (IRI)*, 2013 IEEE 14th International Conference on, pages 14–21. August 2013. DOI:10.1109/IRI.2013.6642448.
- [4] Mike Mabey and Gail-Joon Ahn. Towards Collaborative Forensics. In Tansel zyer, Keivan Kianmehr, Mehmet Tan, and Jia Zeng, editors, *Information Reuse and Integration in Academia and Industry*, pages 237–260. Springer Vienna, 2013. ISBN 978-3-7091-1537-4. DOI:10.1007/978-3-7091-1538-1\_12.
- [5] Michael Kent Mabey. *Collaborative Digital Forensics: Architecture, Mechanisms, and Case Study*. Master's thesis, Arizona State University, August 2011.
- [6] Mike Mabey and Gail-Joon Ahn. Towards Collaborative Forensics: Preliminary Framework. In *Information Reuse and Integration (IRI)*, 2011 IEEE International Conference on, pages 94–99. August 2011. DOI: 10.1109/IRI.2011.6009527.

## TECHNICAL STRENGTHS & QUALIFICATIONS

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<b>Research Interests</b>	Digital Forensics, Internet of Things, Cloud Computing
<b>Programming Languages</b>	Python, C/C++, HTML, CSS, Answer Set Programming
<b>Forensic Tools</b>	FTK, Sleuth Kit & Autopsy, dd, HxD, etc.
<b>Protocols &amp; APIs</b>	JSON, XML, REST
<b>Network Administration/Security</b>	OpenVPN, Wireshark
<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 (3 years) 2012–2015
- Inducted into Eta Kappa Nu (HKN) Engineering Honors Society Nov 2010
- Team Leader — ASU team in the UCSB International CTF 2009, 2010, 2015
- Eagle Scout, Boy Scouts of America 2002
- Tallest Graduate Student at ASU (not an actual award)