

CHET HOSMER

EDUCATION: POSITIONS HELD & CURRENT ASSOCIATIONS

Education

B.S. Computer Science, Syracuse University at Utica College

Positions Held

2014 to Present	Founder / Chief Scientist Python Forensics, Inc.
2012 to Present	Visiting Professor, Utica College, Cyber Security Graduate Program <i>Courses: Data Hiding, Advanced Topics in Cyber Operations</i>
2014 to Present	Adjunct Professor Champlain College, Digital Forensics Grad Program <i>Courses: Python Scripting for Digital Investigations</i>
1998 to 2014	Co-Founder/Chief Scientist & Sr. VP WetStone/Allen Corporation Currently Data Hiding and Steganography Science Advisor 2002 – 2007 BlackHat USA Instructor (Data Hiding, Malware Investigations and Live Forensic Investigations)
2008 to 2014	President WetStone B.V. Den Hague, the Netherlands
1996 to 1998	President Odyssey Research Associates (ORA) President ORA Canada
1992 to 1996	Principal Computer Scientist E-Systems/Raytheon
1987 to 1992	Research Computer Scientist Illinois Institute of Technology
1979 to 1987	Software Engineer Mohawk Data Sciences

Current Associations

Editorial Board	Journal of Digital Forensic Practice
Editorial Board	Digital Investigation Journal
Member	IEEE (since 1997)
Member	ACM (since 1999)
Member	HTCIA (since 2002)
	2013 Carolina's Chapter President
	2015 Carolina's Chapter First VP
	2016 Carolina's Chapter President
	2018 Carolina's Chapter President

SELECTED PRINCIPAL INVESTIGATOR ACTIVITIES

- "Subject Matter Expert, Data Hiding Research ", WetStone Technologies / NOAA
- "Data Analysis Center for Software DACS", Quanterion/AFRL
- "Agile Cyber Technology", Exelis/AFRL
- "Cyber Attack and Security Environment", ITT/AFRL
- "US-LATT Live Acquisition and Triage" NIJ
- "Intelligent Names Processor and Query System (INPQS)", OSD/AFRL
- "Neural ANOVA Information Leak Software Shunt (NAILS)", SBIR Phase I, ARL
- "Trait Analytic Program Search Software (TAPS)", Grant, NIJ
- "Arabic Name Semantics Software (ANIX)", OSD/AFRL
- "Embedded Software for Biometric Liveness Identification (LiveCheck)", SBIR Phase I & II, AFRL (recipient of 2008 SBA Tibbetts Award)
- "Covert Document Control (CDC)", AFRL
- "Dynamic Quarantine of WORMS (DQW)", DARPA
- "Trusted Network Time (TNT)", SBIR Phase I & II, AFRL
- "Steganography Detection and Recovery Toolkit (S-DART)", AFRL

BOOKS & SELECTED JOURNAL PUBLICATIONS

Books

- Defending IoT Infrastructures with the Raspberry Pi, Apress July 2018
- *PowerShell and Python Together, targeting digital forensic and Incident Response*, Apress Fall 2018
- Passive Python Network Mapping: July 2015 Syngress ISBN: 978-0128027219 <http://www.amazon.com/dp/0128027215/>
- Python Forensics: A workbench for inventing and sharing digital forensic technology Syngress– June 19, 2014 ISBN 978-0124186767 <http://www.amazon.com/dp/0124186769/>
- Integrating Python with Leading Computer Forensic Platforms: Syngress, October 2016 Syngress ISBN 978-0128099490
- Data Hiding: Exposing Concealed Data in Multimedia, Operating Systems, Mobile Devices and Network Protocols, Syngress September 2012, ISBN 9781597497435 Co-Authored with Mike Raggio <http://www.amazon.com/dp/1597497436/>
- Executing Windows Command Line Investigations: While Ensuring Evidentiary Integrity: July 2016 Syngress ISBN 978-0128092682
- “Security on the Web, Volume 83 (Advances in Computers)” Marvin Zelkowitz Ph.D, June 2011 Chapter 2 Overview of Steganography Gary Kessler and Chet Hosmer. Elsevier Academic Press London. ISBN: 978-0123855107 <http://www.amazon.com/dp/B009S10IMM/>

Journal and Magazine Publications

- “Covered Writing Then and Now”, DFI News Magazine, Summer/Fall 2012
- “Protocol Data Hiding”, March 2012 DFI News
- “Steganography and Smart Phones”, February 2012 DFI News
- “The Future of Steganography”. DFI News Magazine, Winter/Spring 2012
- “The Evolution of the One-Way Cryptographic Hash”, July 22, 2009 DFI News feature article
- “Whispering in the dark, a new wave of criminal communication”, June 2009 DFI News feature article
- “Find Incriminating Contraband in Images”, June 2009 DFI Newsfeature article.
- “Discovering Hidden Evidence”, Journal of Digital Forensic Practice, March 2006
- “Digital Evidence Bag” Communications of the ACM, February 2006
- “Digital Evidence Storage” Communications of the ACM, February, 2006
- “Hearing on Cybersecurity Education, the Needs of Technology Workers and Employers”, House of Representatives Committee on Science, July 21, 2004
- “Biometrics and Digital Evidence”, with Countryman, B. The Security Journal, Winter 2004
- “What You Can’t See Can Hurt You”, The Security Journal, Summer 2003
- “Proving the Integrity of Digital Evidence with Time”, IJDE, Spring 2002
- “What You Can’t See Can Hurt You”, SC Magazine, August 2002

SELECTED CONFERENCE PRESENTATIONS

- IoT Data Exfiltration, Mike Raggio, Chet Hosmer. DEF-CON 26, Las Vegas, August 11, 2018
- Forensic Identification of Fake Photo, HTCIA, Washington, D.C. August 19-22, 2018
- Raspberry Pi IoT/ICS Sensor Demonstration: DFRWS Conference, July 15-18, Providence, RI
- Exfiltrating Data Through IoT, how is your data leaking. RSA Security Conference April 20, 2018, San Francisco, Ca
- “A Raspberry Pi Passive IoT Sensor, April 11, 2018, CyberSecurity Innovation Forum at George Mason University
- Leveraging PowerShell with Cool Python Scripts, HTCIA International Conference, September 2017 Anaheim, Ca
- Python Passive IoT Investigations using a Raspberry Pi, HTCIA International Conference, September 2017 Anaheim, Ca
- “Modern Day Covert-TCP with a Twist – Data Exfiltration Today” DEF-CON 25 Las Vegas, NV, July 29, 2017
- Shifting Your Focus to Active Cyber Defense, Above Security Webinar – June 2017

- “Asset Mapping with Python”, enfuse 2017, Las Vegas, NV, May 23, 2017
- “Python Aided Analysis”, AccessData 2017 User Summit, San Diego, CA, May 16-19, 2017
- “Python Zero to Hero in 90 Minutes”, PFIC Conference, Albany NY, September 8-9, 2016
- “Python Multi-Core Password/Key Cracking”, August 30, 2016 HTCIA Conference Summerlin, NV
- “What’s Lurking Inside MP3 Files That Can Hurt You?”, August 7, 2016 DEFCON 24, SkyTalks, Mike Raggio and Chet Hosmer
- “Extracting Hidden Evidence from Multimedia Files”, ENFUSE Conference, Caesars Palace Las Vegas, NV May 24, 2016
- “Remaining Covert in an Overt World”, Raggio/Hosmer, DEF-CON 23, August 7, 2015, Las Vegas, NV
- “Heuristic Reasoning with Python and EnCase”, May 20, 2015 CEIC 2015 Las Vegas, NV
- “Advanced Python Forensics Lab”, November 12-14, PFIC Conference, Snowbird, UT
- “Data Hiding: A Peek at the latest Innovations” Raggio/Hosmer, DEF-CON 22, August 8, 2014 Las Vegas, NV
- “Python Forensics”, November 12-14 PFIC 2014 Snowbird, UT
- “Python and Cyber Security” September 10th, 2014 the CyberSecurity Innovation Forum at George Mason University
- “Python Forensics in the Cloud”, August 26th, 2014 HTCIA International Austin, TX
- “Data Hiding and Steganography a sneak peek at the latest techniques”, Techno Security Conference 2014, June 2, Myrtle Beach, SC Chet Hosmer and Mike Raggio
- “The Right Tool For The Right Job - EnCase App Central Showcase, C-TAK presentation and demonstration”, CEIC 2014, May 21 Las Vegas, NV.
- “Data Hiding and Steganography a sneak peek at the latest techniques”, The United States Cyber Crime Conference April 30th Leesburg, VA. Chet Hosmer and Mike Raggio
- “Python Forensics, Deep Dive 3 day training” PFIC Snowbird Utah, November 13-15, 2013
- “Python Forensics, Training Deep Dive”, HTCIA International Conference, September 2013 Summerlin Nevada.
- “Steganography”, Cybersecurity Innovation Forum, George Mason University, May 2013. http://www.youtube.com/watch?v=sH3ZYx_WDMU
- “Python Forensics, Keynote Presentation, Techno Security Conference, Myrtle Beach, SC June 2013
- “New Directions in Data Hiding”, Techno Security Conference, Myrtle Beach, SC June 2013
- “Data Hiding and Steganography 21st Century Innovations”, Hosmer C. and Raggio M, DoD Cyber Crime Conference January 2012 Atlanta Georgia
- “Live Acquisition and Triage Catch’Em in the Act”, DoD Cyber Crime Conference January 2012 Atlanta Georgia
- “Erasing The Myth” Invited Speaker, 13th Annual ACM Multimedia and Security Workshop, September 2011 Niagara Falls NY
- “Data Hiding and Steganography a Peek at the latest Innovations”, Hosmer C. and Raggio M. PFIC 2011 Conference November 9, 2011 Park City Utah
- “The Dark Side of Social Networking”, Keynote Presentation, Techno Security Conference June 8, 2011 Myrtle Beach, SC
- “Dealing Head-On with Healthcare Information System Vulnerabilities”, February 21, 2011
- “Live Investigative Triage” PFIC Conference November 8, 2010, Park City Utah
- “Investigating covert communications and advanced data hiding”, September 22, 2010, HTCIA International Conference, Atlanta GA.
- “Windows FE and Live Forensic Triage”, July 29, 2010, DFI News Webinar
- “The next big threat doesn’t necessarily go boom”, Keynote 2010 Techno Security Conference, Myrtle Beach, SC June 2010.
- “Live Investigation, Essential Ingredients 2010 and Beyond” Keynote: World Congress on Information Technology, Amsterdam Netherlands May 2010
- “U3-USB-Live Acquisition & Triage Tool (US-LATT)”, Kansas City, NIJ Applied Technology Conference, April 14, 2009
- “The Future of eCrime Technology”, Strasbourg France, Council of Europe, March 10, 2009”
- “The Future of eCrime Training”, Strasbourg France, Council of Europe, March 11, 2009
- “Polymorphic and Metamorphic Malware”, St. Louis, DoD Cyber Crime, January 27,2009”
- “On Demand Live Investigation” St. Louis, DoD Cyber Crime, January 27,,2009”
- “Investigating the Insider Threat” Keynote ENFSC Netherlands, October 17, 2008
- “Data Exfiltration” ENFSC Netherlands, October 16, 2008

- “Investigating Metamorphic Malware” ENFSC Netherlands, October 16, 2008
- “Investigating Polymorphic and Metamorphic Malware” Black Hat USA, August 7, 2008
- “What’s Lurking in Your Enterprise” International Forum on Cybercrime, Lillie, France, March 20, 2008
- “eCrime and Steganography” International Forum on Cybercrime, Lillie, France, March 20, 2008
- “Investigating Malicious Code and Steganography” ENFSC Netherlands, October 26, 2007
- “eCrime and Steganography” ENFSC Netherlands, October 25, 2007
- “On Demand ‘Live’ Forensics” ForenSec Canada Conference, September 17, 2007
- “Steganography Artifact Identification” 2007 CEIC Conference, May 8, 2007
- “On Demand (Live Investigation)”, DoD Cyber Crime Conference, January 24, 2007
- “Biometric Liveness” DoD Cyber Crime Conference, January 24, 2007
- “Advanced Steganography Analysis Methods” DoD Cyber Crime Conference, January 24, 2007
- “On Demand ‘Live’ Forensics” Keynote, Techno Forensics, November 7, 2006
- “The Future of Cyber Warfare” Keynote, Academy of Applied Forensics, May 25, 2006
- “Steganography Investigation”, Internet Crimes against Children Task Force, August 16, 2005
- “LiveWire Investigation”, Internet Crimes against Children Task Force, August 16, 2005
- “Examining Cyber Weapon Advancements”, NATO Den Haag, NEC, April 27, 2005
- “Attacking Malware: Extending NSRL”, NIST Hashapalooza Conference, August 13, 2004
- “DF Framework Panel”, Digital Forensic Research Workshop 2004, August 12, 2004
- “Time: The Missing Link in Digital Integrity”, Gorham International Conference, May 25, 2004
- “Protecting the Homeland using Biometric Identification”, Sector 5-The Global Summit Exploring CyberTerrorism and the Targets of Critical Infrastructures, August 21-23 2002
- “Discovering Covert Digital Evidence”, Digital Forensic Research Workshop, August 6, 2003
- “Tracking Cyber Criminals with Time”, NATO Den Haag, InfoForensics Keynote, October 22, 2002
- “Advancing Crime Scene Computer Forensics Techniques”, with J. Feldman and J. Giordano, SPIE’s International Symposium on Enabling Technologies for Law Enforcement and Security Conference, November 1998
- “Using SmartCards and Digital Signatures to Preserve Electronic Evidence”, SPIE’s International Symposium on Enabling Technologies for Law Enforcement and Security Conference, November 1998
- “System Modeling and Information Fusion for Network Intrusion Detection”, with N. Ye, J. Feldman, and J. Giordano, ISW ’98, October 1998
- “Detecting Subtle System Changes Using Digital Signatures”, with M. Duren, 1998 IEEE Information Technology Conference, September 1998
- “Time-Lining Computer Evidence”, 1998 IEEE Information Technology Conference, September 1998
- “The Role of Smart Tokens in Cryptographic Key Management”, with P. Samsel, PARAPET Journal of Information Security, Autumn 1997
- “Controlling Internal Fraud: Detection and Countermeasures Using Intelligent Agents”, Economic Crime Investigation Institute Eighth Annual Conference, Oct 27-28, 1997
- “Developing Solutions That Employ Tamper Proof Token Devices to Protect Information Integrity and Privacy”, IEEE Dual-Use Technologies and Applications Conference, May 1997
- “Securing Lottery Electronic Instant Ticket Technology”, with M. Holcombe, 1994 National Lottery Technology Conference, November 1994

SELECTED MEDIA COVERAGE & AWARDS

Media Coverage

- Steganography the Evolving Threat, George Mason Cybersecurity Innovation Forum April 2013, http://www.youtube.com/watch?v=sH3ZYx_WDMU
- “Steganography: Deciphering Hidden Messages”, July 13, 2010, Kojo Nnamdi Show, National Public Radio WAMU Washington D.C.
- “Arrests of alleged spies draws attention to long obscure field of steganography”, June 30, 2010 Washington Post.
- “Spy vs. Spy” – IEEE, August, 2008
- “Tech Insight: Incident Response”– Dark Reading, January 18, 2008
- “The Evolution of Digital Rights Management and its Role in Optimizing the Life Cycle of Software Products” – Frost & Sullivan eBroadcast, September 25, 2007

- “LIVE Forensics is the Future for Law Enforcement” – GCN, July 31, 2006
- “Is it Live, or is it ... latex?” – GCN, August 15, 2005
- “Digital Arms Race Shows Cyber Security Threat Facing U.S., Expert Says” – GCN, June 17, 2005
- “Hidden in Plain Sight” – GCN, May 16, 2005
- “Steganography Theory of Mind” – Australian Broadcasting Corporation, April 18, 2005
- “Hacking a Terror Network, the Silent Threat of Covert Channels”, Russ Rogers, December 2004
- “Secret Codes”- NHK Japan Television, December 2002
- “A Novice Tries Steganography” - Tech TV – Cyber Crime Show, January 2002
- “The Case of Missing Code” Salon.com July 17, 2002
- “Veiled Messages of Terror May Lurk in Cyberspace”, New York Times, October 30, 2001
- “A Secret Language” – ABC News Prime Time Thursday, October 4, 2001
- “Hidden in Plain Site” Wired Magazine, June 2001

Awards

- “2012” "Chet Hosmer’s article Steganography and Smart Phones" ranked #2 in among all articles in 2012 by DFI News.
- “2010 SC Magazine Forensic Group Test” T.A.P.S. 5 Star Rating SC Magazine
- “2009 20/20 Award Top 20 Products in the past 20 years” SC Magazine
- “2009 Cyber Security Professional of the Year, Techno Security
- “2008 Best Computer Forensic Solution”, SC Magazine
- “2007 Best Computer Forensic Solution”, SC Magazine
- “2007 Tibbetts Award” Small Business Technology Council
- “2007 Innovation Award – Computer Forensics”, SC Magazine