Martina Lindorfer

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EDUCATION

Doctor of Technical Sciences (Dr. techn.)   July 2011 – November 2015
Vienna University of Technology, Austria
Major: Malware Analysis and Mobile Security
Thesis: *Malware Through the Looking Glass: Malware Analysis in an Evolving Threat Landscape*
Advisor: Priv.-Doz. Dipl.-Ing. Mag.rer.soc.oec. Dr. techn. Edgar Weippl

Master of Science (Dipl.-Ing.)   October 2006 – May 2011
Vienna University of Technology, Austria
Major: Software Engineering and Internet Computing
Thesis: *Detecting Environment-Sensitive Malware*
Advisor: Priv.-Doz. Dipl.-Ing. Dr. techn. Engin Kirda

Bachelor of Science (BSc)   October 2003 – July 2006
University of Applied Sciences Hagenberg, Austria
Major: Computer and Media Security
Theses: *Aggregate Signatures – Algorithms and Applications*
          Integration of Elliptic Curves in the Cryptographic Base Infrastructure of the Utimaco Safeware AG
Advisor: FH-Prof. Dr. Juergen Fuss

EXPERIENCE

Postdoctoral Researcher   since April 2016
Computer Security Group, UC Santa Barbara, USA

Researcher   January 2013 – December 2015
SBA Research, Vienna, Austria

Visiting Researcher   October 2014 – March 2015
Systems Security Lab, Northeastern University, Boston, USA
- Analysis of iOS8 security features
- Data leak detection in mobile app traffic

Research Assistant   July 2011 – September 2014
Secure Systems Lab, Vienna University of Technology, Vienna, Austria
- Research as part of PhD studies
- Dynamic malware analysis and detection of Android malware (Andrubis)

Research Intern   November 2013
Foundation for Research and Technology – Hellas (FORTH-ICS), Heraklion, Greece
- Detection of malicious Android applications in alternative markets

Research Intern   January – May 2013
Fukuda Laboratory, National Institute of Informatics (NII), Tokyo, Japan
- Detection of botnet traffic in backbone networks based on NetFlow data

Research Intern   September – November 2009
Multimedia Security Lab, Korea University, Seoul, South Korea
- Development of a Windows executable packer with encryption and compression

Software Engineer, Project Controller   July 2006 – December 2008
Underground_8 Secure Computing GmbH, Linz, Austria
- Design and development of a transparent threat management appliance,
  which filters mail and web traffic for spam and malware

Teaching Assistant March – June 2008
Distributed Systems Technologies, Vienna University of Technology, Vienna, Austria

Software Engineer (Professional Practical Training) March – June 2006
Utimaco Safeware AG, Linz, Austria
- Integration of elliptic curve signature and encryption algorithms in the cryptographic base infrastructure of a hard disk encryption suite

PUBLICATIONS

Conferences

Obfuscation-Resilient Privacy Leak Detection for Mobile Apps Through Differential Analysis
Andrea Continella, Yanick Fratantonio, Martina Lindorfer, Alessandro Puccetti, Ali Zand, Christopher Kruegel, Giovanni Vigna
Network and Distributed System Security Symposium (NDSS)
San Diego, California, USA, February 2017

Drammer: Deterministic Rowhammer Attacks on Mobile Platforms
Victor van der Veen, Yanick Fratantonio, Martina Lindorfer, Daniel Gruss, Clementine Maurice, Giovanni Vigna, Herbert Bos, Kaveh Razavi, Cristiano Giuffrida
ACM Conference on Computer and Communications Security (CCS)
Vienna, Austria, October 2016

ReCon: Revealing and Controlling PII Leaks in Mobile Network Traffic
Jingjing Ren, Ashwin Rao, Martina Lindorfer, Arnaud Legout, David Choffnes
International Conference on Mobile Systems, Applications and Services (MobiSys)
Singapore, June 2016

CuriousDroid: Automated User Interface Interaction for Android Application Analysis Sandboxes
Patrick Carter, Collin Mulliner, Martina Lindorfer, William Robertson, Engin Kirda
International Conference on Financial Cryptography and Data Security (FC)
Christ Church, Barbados, February 2016

Marvin: Efficient and Comprehensive Mobile App Classification Through Static and Dynamic Analysis
Martina Lindorfer, Matthias Neugschwandtner, Christian Platzer
Annual International Computers, Software & Applications Conference (COMPSAC)
Taichung, Taiwan, July 2015

AndRadar: Fast Discovery of Android Applications in Alternative Markets
Martina Lindorfer, Stamatis Volanis, Alessandro Sisto, Matthias Neugschwandtner, Elias Athanasopoulos, Federico Maggi, Christian Platzer, Stefano Zanero, Sotiris Ioannidis
Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA)
London, UK, July 2014

Take a Bite – Finding the Worm in the Apple
Martina Lindorfer, Bernhard Miller, Matthias Neugschwandtner, Christian Platzer
International Conference on Information, Communications and Signal Processing (ICICS)
Tainan, Taiwan, December 2013

Lines of Malicious Code: Insights Into the Malicious Software Industry
Martina Lindorfer, Alessandro Di Federico, Federico Maggi, Paolo Milani Comparetti, Stefano Zanero
Annual Computer Security Applications Conference (ACSAC)
Orlando, Florida, USA, December 2012

Detecting Environment-Sensitive Malware
Martina Lindorfer, Clemens Kolbitsch, Paolo Milani Comparetti
International Symposium on Recent Advances in Intrusion Detection (RAID)
Menlo Park, California, USA, September 2011

Workshops

Andrubis – 1,000,000 Apps Later: A View on Current Android Malware Behaviors
Martina Lindorfer, Matthias Neugschwandtner, Lukas Weichselbaum, Yanick Fratantonio,
Victor van der Veen, Christian Platzer
International Workshop on Building Analysis Datasets and Gathering Experience Returns for Security (BADGERS)
Wroclaw, Poland, September 2014

Skin Sheriff: A Machine Learning Solution for Detecting Explicit Images
Christian Platzer, Martin Stuetz, Martina Lindorfer
International Workshop on Security and Forensics in Communication Systems (SFCS)
Kyoto, Japan, June 2014

Enter Sandbox: Android Sandbox Comparison
Sebastian Neuner, Victor van der Veen, Martina Lindorfer, Markus Huber, Georg Merzdovnik,
Martin Mulazzani, Edgar Weippl
IEEE Mobile Security Technologies Workshop (MoST)
San Jose, California, USA, May 2014

A View to a Kill: WebView Exploitation
Matthias Neugschwandtner, Martina Lindorfer, Christian Platzer
USENIX Workshop on Large-Scale Exploits and Emergent Threats (LEET)
Washington, D.C., USA, August 2013

Miscellaneous

Andrubis: Android Malware Under the Magnifying Glass
Lukas Weichselbaum, Matthias Neugschwandtner, Martina Lindorfer, Yanick Fratantonio,
Victor van der Veen, Christian Platzer
Technical Report, Vienna University of Technology, July 2014

POSTER: Cross-Platform Malware: Write Once, Infect Everywhere
Martina Lindorfer, Matthias Neumayr, Juan Caballero, Christian Platzer
ACM Conference on Computer and Communications Security (CCS)
Berlin, Germany, November 2013

The Red Book: A Roadmap for Systems Security Research
The SysSec Consortium, Evangelos Markatos and Davide Balzarotti (editors), August 2013

HONORS & AWARDS

- Finalist for the CSAW Applied Research Competition with Drammer — October 2017
- Travel grant for the CyberW Workshop for Women in Computer Science — September 2017
- Pwnie award for Best Privilege Escalation Bug for Drammer — July 2017
- Pwnie nomination for Most Innovative Research for Drammer — July 2017
- Promotio Sub Auspiciis Praesidentis (graduation with highest honors in Austria) — May 2017
- Best Dutch Cyber Security Research Paper (DCSRP) award for Drammer — March 2017
- Reward from the Android Security Rewards Program for Drammer — November 2016
  (CVE-2016-6728, marked as critical)
- Travel grant for the GREPSEC II workshop and IEEE Symposium on Security and Privacy — May 2015
- Marshall Plan scholarship for a research exchange with Northeastern University — May 2014
- Research fellowship from Clear Sky Ventures — January 2014
- SysSec scholarship for a research exchange with FORTH-ICS — October 2013
- Google EMEA Anita Borg Memorial Scholarship — June 2012
- Finalist for the Google Europe Anita Borg Memorial Scholarship — June 2008
- Finalist for the CAST IT security sponsorship award for outstanding bachelor theses — November 2007

COMMUNITY SERVICE

Program Committee Member

- Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA) 2016, 2017
- International Workshop on Innovations in Mobile Privacy and Security (IMPS) 2017
- Workshop on Formal Methods for Security Engineering (ForSE) 2017, 2018
- USENIX Workshop on Offensive Technologies (WOOT) 2015
- International Workshop on Emerging Cyberthreats and Countermeasures (ECTCM) 2013, 2014, 2015

External Reviewer

- Privacy Enhancing Technologies Symposium (PETS) 2017, 2018
- International Conference on emerging Networking EXperiments and Technologies (CoNEXT) 2016

Journal Reviewer

- ACM Transactions on Privacy and Security
- Computers & Security
- EURASIP Journal on Information Security
- IEEE Transactions on Computers
- IEEE Transactions on Dependable and Secure Computing
- IEEE Transactions on Information Forensics and Security
- International Journal of Information Security
- Journal of Computer Virology and Hacking Techniques
- Theoretical Computer Science

EXTRA-CURRICULAR ACTIVITIES

- Mentor for Learn IT Girl, a program that helps women around the globe since October 2017
  to learn new programming languages (`https://www.learnitgirl.com`)

- Lead development and maintenance of Andrubis (`http://anubis.iseclab.org`), June 2012 – April 2016
  a large-scale public dynamic analysis sandbox for Android applications

- Conception of a one day workshop on mobile malware analysis techniques August 2015

- Supervision of Master's thesis of Matthias Neumayr under the title January 2015
  "The Current State of Browser Extension Security and Extension-based Malware"

- Conception of a four day workshop on dynamic malware analysis techniques, August 2014
  analysis evasion and countermeasures

- Conception of a techNIKE workshop teaching Internet security topics and June 2014
  security and privacy awareness in online social networks to girls aged 10–14

- Recruitment committee member for the position of full tenured professor of security April 2014
  at Vienna University of Technology

- Investigator for the Vienna University of Technology in the August 2011 – June 2012
  i-Code Real-time Malicious Code Detection Project (`http://www.icode-project.eu`)

- Member of the We_0wn_Y0u Capture The Flag team
  - Participation in the 2012 DEF CON Capture The Flag
  - 1st place in the 2011 UCSB International Capture The Flag (iCTF)