

Vasilios Mavroudis

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Research Interests

Systems Security, Privacy Attacks & Countermeasures, Adversarial Machine Learning, Obscure Ecosystems & Private Analytics

Education

2016 – Present	PhD in Computer Science Thesis: “Privacy Preserving Statistics & Analytics” Supervisors: Prof. George Danezis & Dr. Emiliano De Cristofaro	University College London, UK
2014 – 2015	M.Sc. in Information Security Thesis: “Privacy-preserving Statistics for Tor” Supervisor: Prof. George Danezis	University College London, UK
2007 – 2012	B.Sc. in Applied Informatics Thesis: “Cassiopeia: Real-time mobile security monitoring system” Supervisor: Prof. Mavroudis Ioannis	University of Macedonia, Greece

Experience

Sep 2015 – Feb 2016	Computer Security Group, University of California, Santa Barbara <i>Research Assistant</i> Comprehensive study of ultrasound tracking, that received wide-spread attention and is considered the seminal work on the security of that ecosystem. We are currently working towards the standardization of ultrasound communications, and design extensions of previous attacks.	California, USA
July 2014 – Sep 2014	Computer Security Group, University of California, Santa Barbara <i>Research Assistant</i> Design and development of a prototype that analyses JavaScript malware samples and detects those that exhibit non-deterministic behavior in order to evade detection.	California, USA
May 2013 – May 2014	Centre for Research & Technology Hellas <i>Research Assistant</i> Research on security technologies for seamless service provisioning in smart mobile ecosystems. I studied large-scale attacks against telecommunication networks and developed detection algorithms and prevention measures (NEMESYS FP7).	Thessaloniki, Greece
Mar 2012 – Aug 2012	Deutsche Bank, GT Security/Security Information Solutions dept. <i>Research Internship</i> Deployed a proof-of-concept system based on the Intel IPT technology that enhances the security level of web banking transactions by utilizing user interaction, secure channels and secure displays. Moreover, I developed auditing tools for the bank’s Public Key Infrastructure.	Frankfurt, Germany

Honors & Awards

Grant Project funded by Data Transparency Lab to appear in DTL2016 (Nov 2016); **Award** Deans List commendee at UCL for outstanding academic performance (Apr 2016); **Honor** Distinction in Information Security M.Sc, and ranked 1st in class (Nov 2015); **Award** First place at UCL code breaking competition (May 2015); **Scholarship** UCL Excellence Scholarship for MSc candidates (Aug 2014); **Scholarship** Arnaoutis Foundation excellence scholarship for postgraduate studies (Sep 2014); **Honor** ‘Excellent GPA’, University of Macedonia (Sep 2012); **Scholarship** Erasmus European program for internships (Mar 2012); **Scholarship** Security in IT Course, Danmarks Tekniske Universitet (Aug 2011); **Honor** “Degree of excellence”, Ministry of National Education, Greece (2001 – 2007)

Technologies

Proficient: Python, C++, Java, JavaCard, Unix, Latex. *Prior Experience:* OpenMP, MPI, Web PHP, Javascript, CSS, Scapy.

Publications

[C = Conference] [T=Technical Report] [P=Preprint]

[P] **Eavesdropping Whilst Youre Shopping: Balancing Personalisation and Privacy in Connected Retail Spaces**¹

Mavroudis V., Veale M.

LawArXiv, <https://osf.io/vea8f/>, January 2018

[C, P] **A Touch of Evil: High-Assurance Cryptographic Hardware from Untrusted Components**

Mavroudis V., Cerulli A., Cvrcek D., Svenda P., Klinec D., Danezis G.

24th ACM Conference on Computer and Communications Security, Dallas, TX, November 2017

[C] **On the Privacy and Security of the Ultrasound Tracking Ecosystem**

Mavroudis V., Hao S., Fratantonio Y., Maggi F., Kruegel C., Vigna G.

Proceedings of the Privacy Enhancing Technologies Symposium Minneapolis, MN July 2017

[T] **The Ultrasound Tracking Ecosystem**

Mavroudis V., Hao S., Fratantonio Y., Maggi F., Vigna G., Kruegel C., November 2016

[T] **Anomaly detection within femtocell architectures**

Liebergeld St., Lange M., Borgaonkar R., Drosou An., **Mavroudis V.**

Enhanced Network Security for Seamless Service Provisioning in the Smart Mobile Ecosystem, EU FP7, November 2104

[C] **Visual Analytics for enhancing supervised attack attribution in mobile networks**

Papadopoulos S., **Mavroudis V.**, Drosou A., Tzouvaras D.

29th International Symposium on Computer and Information Sciences (ISCIS), Krakow, Poland, October 2014

[T] **Anomaly detection based on real-time exploitation of billing systems**

Abdelrahman O., Drosou An., Gelenbe E., Gorbil G., **Mavroudis V.**

Enhanced Network Security for Seamless Service Provisioning in the Smart Mobile Ecosystem, EU FP7, October 2014

[T] **Correlation Analysis and Abnormal Event Detection Module**

Abdelrahman O., **Mavroudis V.**, Papadopoulos S., Drosou An., Oklander B.

Enhanced Network Security for Seamless Service Provisioning in the Smart Mobile Ecosystem, EU FP7, April 2014

[T] **Network information sources**

Tzouvaras D., **Mavroudis V.**, Papadopoulos G., Bekoulis G., Baltatu M., Delosires L.

Enhanced Network Security for Seamless Service Provisioning in the Smart Mobile Ecosystem, EU FP7, July 2013

[C] **Development of real-time mobile security monitoring system**

Mavroudis V., Mavridis I.

2nd Conference on Information Technology Applications and Administration Strategies, Thessaloniki, Greece, 2010

[C] **Use and effective appliance of free and open source software in education**

Mavroudis V., Mouratis S.

4th National Conference of Information Technology Educators, Serres, Greece, 2010

¹Equal Author Contribution

Selected Talks

Trojan-tolerant Hardware & Supply Chain Security in Practice
Defcon 25, Las Vegas, US, 27-30 July 2017.

OpenCrypto: Unchaining the JavaCard Ecosystem
Blackhat US, Las Vegas, US, 22-27 July 2017.

On the Privacy & Security of the Ultrasound Tracking Ecosystem
Mozilla International Privacy Day, London, UK, 28 January 2017.

Tough Love for the ugly Ultrasound Tracking Ecosystem
Chaos Communication Congress, Hamburg, Germany, 27-30 December 2016.

Talking Behind Your Back: Attacks and Countermeasures of Ultrasonic Cross-device Tracking
Blackhat Europe, London, UK, 3-4 November 2016.

Academic Service

Guest Lecture: Masterclass on Maths and Cryptography at the Royal Institute of Sciences
January 2018

Co-organizing the Hacking Seminars at UCL
September 2017-Present

Organizing the Information Security Seminars at UCL
January 2017-Present

External Reviewer for Privacy Enhancing Technologies Symposium
April 2017-Present

Elected IT Officer in the Members' Council of Goodenough College, London
November 2016 - Present

Teaching Assistant *Computer Security I* module, Information Security MSc
Winter term, 2017-2018

Teaching Assistant for *Computer Security II* module, Information Security MSc
Spring term, 2016-2017

Guest Lecture on Academic Research, In2ScienceUK Organization
August 2017

External reviewer: Journal of Multi-Criteria Decision Analysis, Wiley
2014-2015

Internal Reviewer for deliverables of the NEMESYS FP7 project
May 2013 - Jun 2014