Soteris Demetriou

Lecturer (Assistant Professor), Department of Computing, Imperial College London

s.demetriou@imperial.ac.uk • apss.doc.ic.ac.uk • soterisdemetriou.com

Areas of Specialization

Systems Security and Privacy (Mobile Systems; Cyber-Physical Systems; IoT Systems)

Current Appointment

Lecturer (Assistant Professor), Department of Computing, Imperial College London
Director of Applications, Platforms, and Systems Security lab (APSS)

Education

University of Illinois at Urbana-Champaign   CHAMPAIGN, ILLINOIS, USA
   Ph.D. in Computer Science   *2014 – 2018*
      PhD Thesis Title: Analyzing and Designing the Security of Shared Resources on Smartphone Operating Systems | Advisor: Dr. Carl A. Gunter

University of Illinois at Urbana-Champaign   CHAMPAIGN, ILLINOIS, USA
   MSc. in Computer Science   *2012 – 2014*
      Masters Thesis Title: Android at Risk: Current Threats Stemming from Unprotected Local and External Resources | Advisor: Dr. Carl A. Gunter

University of Patras   PATRA, ACHAIA, GREECE
   Diploma (5-year Engineering Degree) in Electrical and Computer Engineering   *2005 – 2010*
      Diploma Thesis Title: Development and Evaluation of Collaborative Applications for Mobile Devices | Advisor: Dr. Nikolaos Avouris

Honors & Awards

Best-In-Session Presentation Award: I was awarded a best-in-session presentation award for my presentation of "CoDrive: Improving Automobile Positioning via Collaborative Driving" at the "Vehicular Networks" session at IEEE INFOCOM 2018. (*IEEE INFOCOM 2018 Technical Program Committee, May 2018*)

Travel Award: I was awarded a conference travel grant by the Graduate College at the University of Illinois at Urbana-Champaign., (*UIUC Graduate College, March 2018*)

Distinguished Paper Award: Our paper "Resolving the Predicament of Android Custom Permissions" received the distinguished paper award at NDSS '18, (*NDSS, February 2018*)

Sponsorship and Travel Award: I was selected to receive sponsorship and travel support to the 5th Heidelberg Laureate Forum. (*Oak Ridge Associated Universities (ORAU) and National Science Foundation (NSF), May 2017*)

HLF Young Researcher: I was selected as one of the 200 most qualified young researchers in the field of Mathematics and Computer Science, to participate in the 5th Heidelberg Laureate Forum (HLF). (*Scientific Committee of the Heidelberg Forum Foundation, April 2017*)

FADEx Laureate: I was selected to participate in the French-American Doctorate Exchange (FADex) Program in Cybersecurity. (*Office for Science & Technology at the Embassy of France in the United States, April 2017*)

Best in class award: I was awarded the Best in Class Award during the 2016 Intern Project Fair at Hewlett-Packard Enterprise. This was the highest award bestowed. (*Hewlett-Packard Enterprise, Aug 2016*)

[Soccer] MVP: I was selected as the most valuable player (MVP) during the group stage of the Indoor World Cup soccer tournament at the University of Illinois at Urbana-Champaign . (*International Student and Scholar Services (ISSS) at UIUC, Spring 2016*)

Best Pitch Award: I won the Best Pitch Award at the Samsung Innovation Jam. I led the only team with just interns to win an award. (*Samsung Research America, Jun 2015*)

Video of the Month Award: One of our video demos for our paper titled "Inside Job: Understanding and Mitigating the Threat of External Device Mis-Bonding on Android" has won the video of the month award granted by the Coordinated Science Lab at the University of Illinois at Urbana-Champaign. (*Coordinated Science Lab, May 2015*)

Fulbright Scholarship 2012-2014: I was awarded a highly competitive scholarship targeting outstanding scholars. (*J William Fulbright Foreign Scholarship Board (JWFFSB), Feb 2012*)

Conference Publications

Acceptance rates given when made available; citations from Google Scholar as of September 2020.

1. [**MobiSys**] Fan Mo, Ali Shahin, Kleomenis Katevas, *Soteris Demetriou*, Ilias Leontiadis, Andrea Cavallaro, Hamed Haddadi. "DarkneTZ: Towards Model Privacy at the Edge using Trusted Execution Environments". 18th ACM International Conference on Mobile Systems, Applications, and Services (ACM MobiSys), June 2020. *Acceptance rate=19.4% (34/175); Cited by 2.*

2. [**HoTSoS**] Avesta Hojjati, Yunhui Long, *Soteris Demetriou*, Carl A. Gunter. " BEEER: Distributed Record and Replay for Medical Devices in Hospital Operating Rooms". 6th Annual Hot Topics in the Science of Security (HoTSoS), April 2019.

3. [**INFOCOM**] *Soteris Demetriou*, Puneet Jain, Kyu-Han Kim."CoDrive: Improving Automobile Positioning via Collaborative Driving". IEEE International Conference on Computer Communications (IEEE INFO-COM '18), Honolulu, HI, USA. April 2018. *Acceptance rate=19.2% (309/1606); Cited by 7.* [Best-In-Session Presentation Award]

4. [**NDSS**] Güliz Seray Tuncay, *Soteris Demetriou*, Karan Ganju and Carl A. Gunter. "Resolving the Predicament of Android Custom Permissions". ISOC Network and Distributed System Security Symposium (NDSS '18). San Diego, CA, USA. February 2018. *Acceptance rate=21.4% (71/331); Cited by: 23.* [Distinguished Paper Award]

5. [**SenSys**] Animesh Srivastava, Puneet Jain, *Soteris Demetriou*, Landon Cox, Kyu-Han Kim. "CamForensics: Understanding Visual Privacy Leaks in the Wild". ACM Conference on Embedded Networked Sensor Systems (SenSys '17), Delft, The Netherlands. November 2017. *Acceptance rate=17.2% (26/151); Cited by 9.*

6. [**WiSec**] *Soteris Demetriou*, Nan Zhang, Yeonjoon Lee, Xiaofeng Wang, Carl A. Gunter, Xiaoyong Zhou, and Michael Grace. "HanGuard: SDN-Driven Protection of Smart Home WiFi Devices from Malicious Mobile Apps". ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec '17), Boston, MA, USA. July 2017. *Acceptance rate=32.9% (28/85); Cited by 29.*

7. [**DSN**] Yeonjoon Lee, Tongxin Li, Nan Zhang, *Soteris Demetriou*, Mingming Zha, Xiaofeng Wang, Kai Chen, Xiaoyong Zhou, Xinhui Ha and Michael Grace. "Ghost Installer in the Shadow: Security Analysis of App Installation on Android". IEEE/IFIP International Conference on Dependable Systems and Networks (DSN '17), Denver, CO, USA. June 2017. *Acceptance rate=22.3% (49/220); Cited by 5.*

8. [**CCS**] Güliz Seray Tuncay, *Soteris Demetriou* and Carl A. Gunter. "Draco: A System for Uniform and Fine-Grained Access Control for Web Code on Android". ACM Conference on Computer and Communications Security (CCS '16), Vienna, Austria. November 2016. *Acceptance rate=16.5% (137/831); Cited by 29.*

9. [**NDSS**] *Soteris Demetriou*, Whitney Merrill, Wei Yang, Aston Zhang and Carl A. Gunter."Free for All! Assessing User Data Exposure to Advertising Libraries on Android". ISOC Network and Distributed System Security Symposium (NDSS '16). San Diego, CA, USA. February 2016. *Acceptance rate=15.4% (60/389); Cited by 75.*

10. [**NDSS**] *Soteris Demetriou*, Xiaoyong Zhou, Muhammad Naveed, Yeonjoon Lee, Xiaofeng Wang and Carl A.Gunter. "What's in Your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources". ISOC Network and Distributed System Security Symposium (NDSS '15). San Diego, CA, USA. February 2015. *Acceptance rate=16.9% (51/302); Cited by 102.*

11. [**NDSS**] Muhammad Naveed, Xiaoyong Zhou, *Soteris Demetriou*, Xiaofeng Wang and Carl A. Gunter. "Inside Job: Understanding and Mitigating the Threat of External Device Mis-Bonding on Android". ISOC Network and Distributed System Security Symposium (NDSS '14). San Diego, CA, USA. February 2014. *Acceptance rate=18.6% (55/295); Cited by 72.*

12. [**CCS**] Xiaoyong Zhou, *Soteris Demetriou*, Dongjing He, Muhammad Naveed, Xiaorui Pan, Xiaofeng Wang, Carl A. Gunter and Klara Nahrstedt. "Identity, location, disease and more: Inferring your secrets from android public resources". ACM Conference on Computer and Communications Security (CCS '13). Berlin,vGermany. November 2013. *Acceptance rate=19.8% (105/530); Cited by 180.*

Journal Publications

13. [**IxD&A**] Christos Sintoris, Nikoleta Yiannoutsou, *Soteris Demetriou* and Nikolaos Avouris. "Discovering the invisible city: Location-based games for learning in smart cities". Interaction Design and Architecture(s) Journal ([IxD&A). July 2013. *Cited by 22.*

Workshop Publications

14. [**AutoSec**] Zhongyuan Hau, Kenneth T Co, *Soteris Demetriou*, Emil Lupu. "Object Removal Attacks on LiDAR-based 3D Object Detectors". 3rd International Workshop on Automotive and Autonomous Vehicle Security (AutoSec) - co-located with NDSS, 2021, [Runner-Up for Best Short Paper Award]

15. [**IoTSec**] *Soteris Demetriou*, Nathaniel D. Kaufman, Jonah Baim, Adam J. Goldsher and Carl A. Gunter. "Toward an Extensible Framework for Redaction". 1st International Workshop on Security and Privacy for the Internet-of-Things (IoTSec). March 2018.

16. [**ARV**] Christos Sintoris, Nikoleta Yiannoutsou, *Soteris Demetriou* and Nikolaos Avouris. "Discovering the invisible city: Game design for learning in technology enhanced places". ARV Workshop on Smart Cities Learning. June 2013. *Cited by 2.*

17. [**IS-EUSD**] Christos Sintoris, Dimitrios Raptis, Nikoleta Yiannoutsou, *Sotirios Dimitriou* and Nikolaos Avouris. "Content creation by end users for location-sensitive mobile educational games". IS-EUD Workshop Involving End Users and Domain Experts in Design of Educational Games. Jun 2011.

Preprints

18. [**arXiv**] Mo Fan, Anastasia Borovykh, Mohammad Malekzadeh, Hamed Haddadi, and *Soteris Demetriou*. "Layer-wise Characterization of Latent Information Leakage in Federated Learning". *arXiv preprint arXiv:2010. 08762 (2020).*

19. [**arXiv**] Zhongyuan Hau, *Soteris Demetriou*, Luis Muñoz-González, Emil C. Lupu . "Shadow-Catcher: Looking Into Shadows to Detect Ghost Objects in Autonomous Vehicle 3D Sensing". *arXiv preprint arXiv:2008.12008 (2020).*

20. [**arXiv**] Hsiao-Ying Huang, *Soteris Demetriou*, Rini Banerjee, Güliz Seray Tuncay, Rini Banerjee, Carl A. Gunter, Masooda Bashir. "Smartphone Security Behavioral Scale: A New Psychometric Measurement for Smartphone Security". *arXiv preprint arXiv:2007.01721 (2020)*

21. [**arXiv**] Nan Zhang, *Soteris Demetriou*, XiangHang Mi, Wenrui Diao, Kan Yuan, Peiyuan Zong, Feng Qian, Xiaofeng Wang, Kai Chen, Yuan Tian, Carl A. Gunter, Kehuan Zhang, Patrick Tague, Yue-Hsun Lin. "SoK: Understanding IoT Security Through the Data Crystal Ball: Where We Are Now and Where We Are Going To Be". *arXiv preprint arXiv:1703.09809. Cited by 37.*

Patents

1. 2020. Soteris Demetriou, Puneet Jain. "Determination of a Next State of Multiple IoT devices within an Environment". US Patent No: US 10,778,516. Date of Patent: September 15, 2020. *Cited by 2.*

2. 2020. XiaoFeng Wang, Kan Yuan, Xiaoyong Zhou, Muhammad Naveed, Soteris Demetriou, Carl Gunter. "External Resource Control of Mobile Devices". US Patent No: US 10,685,142 B2. Date of Patent: June 16, 2020, *Cited by 4.*

3. 2019. Puneet Jain, Soteris Demetriou, Kyu-Han Kim "Determining Car Positions". US Patent No: US 10,380,889 B2. Date of Patent: August 13, 2019.

Grants

Internal

1. [**ISST Champions Fund**] Title: "Measuring Smartphone Security Behaviour".
   Role: PI.
   Duration: 6 months | *Sponsor Price:* £1,944.15

Service

Program and Organisation Committees

[**ACM CCS**] 26th ACM Conference on Computer and Communications Security. (*2019*). Role(s): Technical Program Committee; Session Chair (Cyberphysical Security Session).

[**ACM MobiCom**] 26th ACM Conference on Mobile Computing and Networking. (*2020*). Role(s): Organisation Committee (Financial Co-Chair).

[**Organised Workshops and Seminars**] Co-organised an academic seminar in cybersecurity with Dr. Hamed Haddadi at Imperial College London. I've hosted Professor Carl Gunter (UIUC) during the seminar (event link)

Reviewed Papers/Manuscripts for the following conferences and journals

[**CCS**] ACM Conference on Computer and Communications Security. (*2015, 2016, 2017,2019*)

[**NDSS**] ISOC Network and Distributed System Security Symposium. (*2014, 2016, 2017*)

[**S&P**] IEEE Symposium on Security & Privacy. (*2012*)

[**Security**] USENIX Security Symposium. (*2014,2015,2017*)

[**PETS**] Privacy Enhancing Technologies Symposium. (*2016*)

[**AsiaCCS**] ACM Asia Conference on Computer and Communications Security. (*2015,2016*)

[**CODASPY**] ACM Conference on Data and Application Security and Privacy. (*2012,2014*)

[**TDSC**] IEEE Transactions on Dependable and Secure Computing. (*2016,2017,2018,2019, 2020*)

[**TMC**] IEEE Transactions on Mobile Computing. (*2016,2017,2018,2019,2020*)

[**TMSCS**] IEEE Transactions on Multi-Scale Computing Systems. (*2017*)

[**JISA**] Journal of Information Security and Applications. (*2017*)

Internal Roles at Imperial College London

Teaching: Co-leading the instruction for COMP70004/COMP97109/COMP97110 (Advanced Computer Security) and COMP70032 (Computer Architecture).

DoC Public Engagement Champion: Advocating engagement of our Department with the general public and supporting outreach activities to increase retention and participation of underrepresented groups in computer science and engineering. (2020-present)

DoC Vice-Director of Undergraduate Admissions: Serving on the undergraduate admissions panel at the Department of Computing at Imperial College London. I have reviewed 219 applications, and interviewed 30 applicants to date. (2019-present)

Supervision: Supervising 3 PhD candidates as first supervisor and working closely with another 3. Supervised 10 MS students to date.

Independent Assessor: Served as the independent assessor for the PhD milestones of 5 PhD candidates.

Tutoring: I served or currently serving as the personal tutor for 14 undergraduate students.

Second Marking: I second-mark exams for two other modules; and second-marked MS theses of 11 students to date.

UROP - Undergraduate Research Opportunities: I've hosted and supervised undergraduate students from within and outside the College for summer research.

Other Faculty hiring cycles: I have actively participated in the faculty candidate feedback process where I have met with candidates, participated in their talks, provided feedback. I have also acted as the official host for 1 candidate.

Internal Roles at UIUC

CS FAA Grad Student Volunteer: I have assisted the CS Fellowships, Admissions, and Assistantships Committee at UIUC to review the Fall 2017 graduate applications for admission at CS@UIUC.

CS@UIUC Mentor: I have served as a *mentor* to new Ph.D. students at the Department of Computer Science at UIUC (2015-2016).

CS@UIUC Grad Ambassador: I have served as an *ambassador* to the Computer Science graduate program at UIUC (2014-2015, 2015-2016, 2016-2017).

Fulbright Student Association: *Founding Member* of the Fulbright Student Association (FSA) at UIUC. Served as *authorized agent* (2013-2014), *treasurer* (2014-2015), and *president* (2015-2016).

Hellenic Student Association: 2012-2018. Served as *secretary* (2015-2016), and *treasurer* (2016-2018),

Media and External Visibility

1. **[SPRITE+]** Invited for a SPRITE+ Expert Fellow Spotlight interview to appear in the SPRITE+ network's website, October 2020.

2. **[Standards]** Invited to give a talk in the Nurturing the Era of e2e Mobility as a Service (MaaS): Standards for Connected and Autonomous Transportation organized by IEEE. Munich, Germany, December 2019.

3. **[Media]** Interview with Joe Tidy, Cyber security reporter at *BBC News*, August 2019.
   Related Article Title: "Why phones that secretly listen to us are a myth".
   Related Article Published: BBC News, September 2019.
   Published Online: https://www.bbc.co.uk/news/technology-49585682

4. **[Media]** Interview with Ceri Stanaway on behalf of *Which? Money*, April 2019.
   Related Article Title: "Outfox the phone scammers".
   Related Article Published: The Times, March 2019; Which? Money, April 2019.

5. **[Standards]** Invited and participated in the Standards for Connected and Autonomous Transportation. Nurturing the Era of e2e Mobility as a Service (MaaS) organized by IEEE. Munich, Germany, December 2018.

6. **[Workshop]** Invited and participated in the Workshop with Industry organized by CRITICS (Critical Transitions in Complex Systems) to contribute in the discussion about *Cyber-security for connected and automated vehicles: Data poisoning in machine learning algorithms*. Imperial College London, December 2018.

7. **[Media]** Interview with Amit Katwala on behalf of *Wired*, October 2018.
   Related Article Title: "Google is finally fixing Android's biggest security problem".
   Published Online: https://www.wired.co.uk/article/android-phone-updates-security-google

8. **[Media]** Interview with Duncan M, Swinscow Hall on behalf of the Institute for Security Science and Technology (ISST), Imperial College London, September 2018.
   Related Article Title: "Getting smart on smartphone cybersecurity".
   Published Online: http://www.imperial.ac.uk/news/188367/getting-smart-smartphone-cyber-security/

Presentations and Talks

1. **[Invited Talk and Panel Discussion]** Invited for a attending a panel discussion and delivering a short talk on Workshop on Privacy Aspects of Contact Tracing, University of California, Irvine, October, 2020.

2. **[Invited Talk]** "apss Lab: Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Great UK cyber deep dive, organised by the British Embassies in France and Israel, Imperial College London, UK, January 2020.

3. **[Invited Talk]** "Data Poisoning Threats on CAV Visual and Distance Sensors". Nurturing the Era of e2e Mobility as a Service (MaaS): Standards for Connected and Autonomous Transportation, organized by IEEE SA. Munich, Germany, December 2019.

4. **[Invited Talk]** "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Academic Centres of Excellence in Cybersecurity Research ACE-CSR Conference, Stratford upon Avon, Warwickshire, UK, June 2019.

5. **[Invited Talk]** "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". InfoSec and ACE Seminars, University College London, London, UK, January 2019.

6. **[Invited Talk]** "Connected and Autonomous Vehicle Security". Workshop with Industry, Imperial College London, December 2018.

7. **[Invited Talk]** "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Computational Privacy Group , Imperial College London, London, UK, December 2018.

8. **[Invited Talk]** "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Security and Privacy Reading Group, Imperial College London, London, UK, November 2018.
   Participating groups: Systems and Algorithms Laboratory (SysAl), led by Dr Hamed Haddadi (Dyson School of Design Engineering); Information Processing and Communications Lab, leb by Dr Deniz Gunduz (Electrical and Electronic Engineeering). Applications and Systems Security Lab (apss), led by Dr Soteris Demetriou (Computing).

9. [**Invited Talk**] "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Hewlett Packard Labs, Palo Alto, CA, USA, May 2018.

10. [**Invited Talk**] "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". VISA Research, Palo Alto, CA, USA, May 2018.

11. [**Invited Talk**] "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Indiana University, Bloomington, IN, USA, March 2018.

12. [**Invited Talk**] "Security and Privacy Challenges in User-Facing, Complex, Interconnected Environments". Symantec Research Labs, Los Angeles, CA, USA, February 2018.

13. [**Conference Talk**] CoDrive: Improving Automobile Positioning via Collaborative Driving. *INFOCOM '18*, Honolulu, HI, USA, April 2018.

14. [**Conference Talk**] Resolving the Predicament of Android Custom Permissions. *NDSS '18*, San Diego, CA, USA, February 2018.

15. [**Poster Presentation**] Tackling Emerging Security and Privacy Threats in the Internet of Things. *HUAWEI*, Research Park, Champaign, IL, USA, October 2017.

16. [**Young Researcher Pitch and Poster Presentation**] Tackling Emerging Security and Privacy Threats in the Internet of Things. *5th Heidelberg Laureate Forum* (*HLF*), Heidelberg Germany, September 2017.

17. [**Conference Talk**] HanGuard: SDN-Driven Protection of Smart Home WiFi Devices from Malicious Mobile Apps. *WiSec '17*, Boston, MA, USA, July 2016.

18. [**Laureate Talk and Poster Presentation**] Tackling Emerging Security and Privacy Threats in the Internet of Things. *French-American Doctoral Exchange Program* (*FADEx*) *in Cybersecurity '17*, LORIA Nancy, France, June 2017; IRISA, Rennes, France, June 2017; INRIA, Paris, France, June 2017.

19. [**Conference Talk**] Free for All! Assessing User Data Exposure to Advertising Libraries on Android. *NDSS '16*, San Diego, CA, USA, February 2016.

20. [**Poster Presentation**] Free for All! Assessing User Data Exposure to Advertising Libraries on Android. *NDSS '16*, San Diego, CA, USA, February 2016.

21. [**Poster Presentation**] Free for All! Assessing User Data Exposure to Advertising Libraries on Android. 11th Coordinated Science Lab Student Conference *CSLSC*, Champaign, IL, USA, February 2016.

22. [**NSF Review**] Free for All! Assessing User Data Exposure to Advertising Libraries on Android. Trustworthy Health & Wellness NSF Review, Johns Hopkins University, Baltimore, MD, USA, January 2016.

23. [**NSF Review**] What's in your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources. Trustworthy Health & Wellness NSF Review, Dartmouth College Hanover, NH, USA, September 2015.

24. [**Invited Talk**] What's in your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources. Student Knowledge Exchange on Privacy Related Topics, Notre Dame University, Notre Dame, IN, USA, Aug 2015.

25. [**Invited Talk**] What's in your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources. Stanford Research Institute (*SRI*) International, Palo Alto, CA, USA, August 2015.

26. [**Invited Talk**] What's in your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources. Mobile Systems Seminar, University of Illinois at Urbana-Champaign, Champaign, IL, USA, March 2015.

27. [**Conference Talk**] What's in your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources. *NDSS '15*, San Diego, CA, USA, February 2015.

28. [**Conference Talk**] Security and Privacy for Mobile Health Apps. *AMIA '14*, Washington, DC, USA, Nov 2014.

29. [**NSF Review**] mHealth Applications and Privacy. Trustworthy Health & Wellness NSF Review, Dartmouth Collegeember Hanover, NH, USA, September 2014.

30. [**Diploma Thesis Defense**] Development and Evaluation of Collaborative Applications for Mobile Devices, University of Patras, Greece, Nov 2010.

Teaching and Supervision

Teaching

[COMP70004/COMP97109/COMP97110 Advanced Computer Security; Role: Co-Leading Instruction] Fall 2019, Fall 2020, Department of Computing, Imperial College London. (https://co447.doc.ic.ac.uk/); Average UG individual lecturer score: 4.14/5.00; Average PG individual lecturer score: 4.38/5.00; Average UG module score: 2.63/5.00; Average PG module score: 3.38/5.00

.

[COMP7003 Computer Architecture; Role: Co-Leading Instruction] Fall 2019, Fall 2020, Department of Computing, Imperial College London. http://www.imperial.ac.uk/computing/current-students/courses/501/; Average individual lecturer score: 4.27/5.00; Average module score: 4.24/5.00

.

[Advanced Security for Smartphones and IoT Systems; Role: Led Instruction] Spring 2019, Department of Computing, Imperial College London. https://www.imperial.ac.uk/computing/current-students/courses/447H/; Average individual lecturer score: 5.00/5.00; Average module score: 4.75/5.00

Supervision

[UROP] Supervised two undergraduate summer research projects.
[MEng] Supervised two undergraduate individual projects (MEng thesis).
[MSc] Supervised four MSc individual projects; currently supervising three students (MS Thesis).
[PhD] I'm currently the first supervisor for three PhD students. I also work closely with three more.

Academic Experience

Imperial College London   London, UK

Lecturer (Assistant Professor)   *Sep '18 – present*

Director of the Applications, Platforms and Systems Security Lab   *Sep '18 – present*

Co-leading instruction of Advanced Computer Security (COMP70004/COMP97109/COMP97110) *Fall '19, Fall '20*

Co-leading instruction of Computer Architecture (COMP70003)   *Fall '19, Fall '20*

Led instruction of CO447H   *Spring '19*

DoC Public Engagement Champion   *Sep '20 – present*

UG Admissions Vice-Director   *Sep '19 – present*
Reviewed 2019 applications and interviewed 30 candidates to date.

Personal Tutor   *Sep '18 – present*

Personal Programming Tutor   *Sep '18 – present*

Department of Computer Science, University of Illinois at Urbana-Champaign Champaign, IL, USA

Research Assistant   *Aug '12 – May '16*
– Assisted in writing the "Thrustworthy Health and Wellness (THaW)" proposal. THaW was awarded a frontier award (the highest bestowed by NSF SaTC in 2013). The award is of $10,000,000 in total (2013-2018). Institutions: Dartmouth College, University of Michigan, University of Illinois at Urbana-Champaign (CNS 13-30491), Johns Hopkins University, Vanderbilt University. I am currently funded by this award.
– Funded by HHS 90TR0003-01; Title: "Strategic Healthcare IT Advanced Research Projects on Security (SHARPS)"; Granted by: Office of the National Coordinator for Health IT (ONC) and Department of Health and Human Services (HHS); multi-institutional award ($10,000,000 total).

Guest Lecturer   *Spring 2018*
CS463/ECE424 - Computer Security II Presented two 75-minute lectures on Mobile Security. Designed a machine problem on targeted advertising attacks on Android.

Guest Lecturer   *Fall 2017*
CS563/ECE525 - Advanced Computer Security Presented a 75-minute lecture on IoT Security.

Guest Lecturer   *Fall 2016*
CS563/ECE525 - Advanced Computer Security Presented a 75-minute lecture on Mobile Advertising.

Guest Lecturer *Spring 2016*
CS463/ECE424 - Computer Security II Presented two 75-minute lectures on Mobile Security. Designed a machine problem on targeted advertising attacks on Android.

Teaching Assistant *Spring 2015*
CS463/ECE424 - Computer Security II Presented two 75-minute lectures on Mobile Security. Designed and graded a new machine problem on targeted advertising. Graded homeworks, midterms and final exams. Held office hours twice per week and coordinated discussions on an online Q&A web platform (Piazza).

Guest Lecturer *Fall 2014*
CS563/ECE525 - Advanced Computer Security Presented a 75-minute lecture on Mobile Advertising.

Guest Lecturer *Spring 2014*
CS463/ECE424 - Computer Security II Presented a 75-minute lecture on Mobile Security. Designed and graded a new machine problem on side-channel attacks on Android.

Industry Experience

Hewlett Packard Labs PALO ALTO, CA, USA

Research Intern - Networking and Mobility Lab *Jun '16 – Jan '17*
– Designed an Internet of Things (IoT) automation framework. Patent pending.
– Designed and evaluated a location optimization algorithm for connected cars. The solution reduces positioning errors by 9x. US Patent granted. Conference paper accepted at IEEE INFOCOM 2018.
– Worked on user privacy violations through vision libraries used by Android apps. Conference paper accepted at ACM SenSys 2017.
– Won the *best in class award* during the HPE Intern Project Fair.
– Mentor: Puneet Jain; Manager: Kyu-Han Kim.

Samsung Research America MOUNTAIN VIEW, CA, USA

Research Intern - Mobile Payments and Security Lab *Jun '15 – Aug '15*
– Designed, implemented and evaluated a secure access control and management system for internet-of-things (IoT) devices. Conference paper accepted at WiSec 2017.
– Worked on a security analysis on application installation on the Android operating system. Conference paper accepted at IEEE/IFIP DSN 2017.
– Won the *best pitch award* during the Samsung Innovation Jam.
– Mentor: Xiaoyong Zhou; Manager: Michael Grace.

Future Worlds Center NICOSIA, CYPRUS

Research Associate *Feb '11 – Aug '12*
– Assisted in writing and acquisition of the e-hoop EU-funded grant. Title: "Unified e-Hoop approach to learning differences". Funding Agency: Lifelong Learning Programme. Contract Number: 530931-LLP-1-2012-1-CY-KA1-KA3MP.
– Also worked on the following projects: Cyberethics, SimSafety, Moblang, IdentifEYE, TeachMDGs.
– I have set-up, designed and maintained the organization's FWC-pedia.
– **Trainer:** led various employee training sessions on creating content for the organization's FWC-pedia.

EKKOTEK www.ekkotek.com

Software Engineer *Feb 11' – Aug '12*
– **Technical:** helped designed and developed a website for a hair salon; built an online video voting platform; developed various websites and modules for mobile applications.
– **Business:** weekly representation of the company in a reputable international business network (BNI).

Military Experience

Cyprus National Guard CYPRUS

Platoon Officer - Instructor *Jul '03 – Aug '05*
Trained in warfare tactics, managing critical situations and people. Served as the managing officer of various infantry platoons. Daily patrols along the Cyprus buffer zone. Daily inspections of military equipment, real estate and soldiers. Led my platoon in small and large scale military exercises. Led various **instruction sessions** targeting active conscripts and reserve forces in the Infantry. Instruction topics ranged from short and long range gun specifications and effective usage, to warfare tactics.

Clothing Store house Officer *Dec '03 – Dec '04*

Served as the officer of my Unit's clothing store. Responsible for monitoring personal equipment distribution, ownership and usage in the Unit.

Gas and Transportation Office Director *Jan '05 – Apr '05*

Daily inspections of military vehicles, gas consumption and vehicles' mileage. Route planning and evaluation. Refueling and timely ordering of gas supplies. Brought the gas and transportation books up to date and passed an audit inspection successfully.

Other Interests

Memberships: IEEE (since 2015); IEEE ComSoc (since 2018); British Computer Society (BCS) (since 2018).

Traveling: EU: Cyprus; Greece; Hungary; Czech Republic; Lithuania; Poland; Italy; Netherlands; Belgium; Spain; Germany; France; Switzerland. USA: New Hampshire; Vermont; Maryland; New York; District of Columbia; Florida; Louisiana; Mississippi; Tennessee; Indiana; Illinois; Michigan; Missouri; Texas; Nevada; California. I am an avid magnet collector.

Soccer: Trained in Anorthosis Famagusta FC youth soccer academies (1996-2003). Participated in intramural soccer tournaments at the University of Illinois at Urbana-Champaign.