Soteris Demetriou

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Areas of Specialization

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

Current Appointments

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

Finalist at CSAW '21 Our paper titled "Shadow-Catcher: Looking Into Shadows to Detect Ghost Objects in Autonomous Vehicle 3D Sensing" was a finalist (Europe) at the CSAW'21 Applied Research Competition.
Runner-Up for Best Short Paper Award: Our short paper titled "Object Removal Attacks on LiDAR-based 3D Object Detectors" was a Runner-Up for the best short paper award at the Third International Workshop on Automotive and Autonomous Vehicle Security (AutoSec) - co-located with NDSS '21. (*AutoSec, February 2021*)
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 2023.

1. **[AsiaCCS]** Anastasios Lepipas, Anastasia Borovykh, *Soteris Demetriou*. "Username Squatting on Online Social Networks". **To appear** at the 19th ACM Asia Conference on Computer and Communications Security (ACM ASIACCS '24).

2. **[SOSP]** Alireza Sahraei, *Soteris Demetriou*, Haoran Zhang, Abhigna Nagaraja, Amirali Sobhgol, Neeraj Pathak, Girish Joshi, Carla Souza, Bo Huang, Wyatt Cook, Andrii Golovei, Pradeep Venkat, Andrew McFague, Dimitrios Skarlatos, Vipul Patel, Ravinder Thind, Ernesto Gonzalez, Yun Jin, Chunqiang Tang. "XFaaS: Hyperscale and Low Cost Serverless Functions at Meta". At the 29th ACM Symposium on Operating Systems Principles (SOSP 2023).

3. **[OSDI]** Harshit Saokar, *Soteris Demetriou*, Nick Magerko, Max Kontorovich, Josh Kirstein, Margaut Leibold, Dimitrios Skarlatos, Hitesh Khandelwal, Chunqiang Tang. "ServiceRouter: Hyperscale and Minimal Cost Service Mesh at Meta". 17th USENIX Symposium on Operating Systems Design and Implementation (OSDI), 2023. *Cited by 2.*

4. **[OSDI]** Boris Grubic, Yang Wang, Tyle Petrochko, Ran Yaniv, Brad Jones, David Callies, Matt Clarke-Lauer, Dan Kelley, *Soteris Demetriou*, Kenny Yu, Chunqiang Tang. "Conveyor: One-Tool-Fits-All Continuous Software Deployment at Meta". 17th USENIX Symposium on Operating Systems Design and Implementation (OSDI), 2023. *Cited by 1.*

5. **[SOUPS]** Hsiao-Ying Huang, *Soteris Demetriou*, Muhammad Hassan, Güliz Seray Tuncay, Carl A. Gunter, Masooda Bashir. "Evaluating User Behavior in Smartphone Security: A Psychometric Perspective". 19th USENIX Symposium on Usable Privacy and Security (SOUPS), 2023.

6. **[INTERSPEECH]** Dominika Woszczyk, Anna Hledikova, Alican Akman, *Soteris Demetriou*, Björn Schuller. "Data Augmentation for Dementia Detection in Spoken Language". Proc. Interspeech 2022, pp.2858–2862, 2022. *Cited by 3.*

7. **[EuroUSEC]** Cecilia Loureiro-Koechlin, Jose-Rodrigo Cordoba-Pachon Jose-Rodrigo Cordoba-Pachon, Lynne Coventry, *Soteris Demetriou*, Charles Weir, "Vision: Design Fiction for Cybersecurity: Using Science Fiction to Help Software Developers Anticipate Problems". In Proceedings of the 2022 European Symposium on Usable Security.

8. **[ACSAC]** Sojhal Ismail Khan, Chengzeng You, Dominika Woszczyk, *Soteris Demetriou*, Muhammad Naveed. "Characterizing Improper Input Validation Vulnerabilities of Mobile Crowdsourcing Services". The 2021 Annual Computer Security Applications Conference (ACSAC), December 2021.

9. **[ESORICS]** Zhongyuan Hau, *Soteris Demetriou*, Luis Muñoz-González, Emil C. Lupu, "Shadow-Catcher: Looking Into Shadows to Detect Ghost Objects in Autonomous Vehicle 3D Sensing", In the Proceedings of the 26th European Symposium on Research in Computer Security (ESORICS), October 2021. *Cited by: 14.* [Finalist (Europe) at the 2021 Applied Research Competition - CSAW'21].

10. **[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 101.*

11. **[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.

12. **[INFOCOM]** *Soteris Demetriou*, Puneet Jain, Kyu-Han Kim. "CoDrive: Improving Automobile Positioning via Collaborative Driving". IEEE International Conference on Computer Communications (IEEE INFOCOM '18), Honolulu, HI, USA. April 2018. *Acceptance rate=19.2% (309/1606); Cited by: 16.* [Best-In-Session Presentation Award]

13. **[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: 49.* [Distinguished Paper Award at NDSS '18].[Finalist at the Cybersecurity Awareness Worldwide (CSAW) applied research competition.]

14. **[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 14.*

15. **[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=22.3%; Cited by 74.*

16. **[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 10.*

17. **[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 52.*

18. **[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 107.*

19. **[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 476.*

20. **[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 95.*

21. **[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, Germany. November 2013. *Acceptance rate=19.8% (105/530); Cited by 239.*

Journal Publications

22. **[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 30.*

Workshop Publications

23. **[SafeThings]** Zhongyuan Hau, *Soteris Demetriou*, Emil Lupu, "Using 3D Shadows to Detect Object Hiding Attacks on Autonomous Vehicle Perception", IEEE workshop on the Internet of Safe Things - co-located with 43rd IEEE Symposium on Security and Privacy, May 2022. *Cited by 1.*

24. **[MAISP@MobiSys]** Chengzeng You, Zhongyuan Hau, *Soteris Demetriou*, "Temporal Consistency Checks to Detect LiDAR Spoofing Attacks on Autonomous Vehicle Perception", 1st Workshop on Security and Privacy for Mobile AI - co-located with ACM MobiSys, June 2021. *Cited by 8.*

25. **[MAISP@MobiSys]** Dominika Woszczyk, Alvin Lee, *Soteris Demetriou*, "Open, Sesame! Introducing Access Control to Voice Services", 1st Workshop on Security and Privacy for Mobile AI - co-located with ACM MobiSys, June 2021. *Cited by 1.*

26. **[DPML@ICLR]** Fan Mo, Anastasia Borovykh, Mohammad Malekzadeh, Hamed Haddadi, *Soteris Demetriou*. "Layer-wise Characterization of Latent Information Leakage in Federated Learning", Distributed and Private Machine Learning workshop - co-located with ICLR, May 2021. *Cited by 17.*

27. **[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. *Cited by 15.* [Runner-Up for Best Short Paper Award]

28. **[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.

29. **[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.*

30. **[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

31. **[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) Cited by 2.*

32. **[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 65.*

Patents

33. 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 4.*

34. 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 11.*

35. 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. *Cited by 3.*

Internal

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

Service

Program and Organisation Committees

[AutoSec/VehicleSec] Automotive and Autonomous Vehicle Security (AutoSec) Workshop (*2022*); ISOC Symposium on Vehicle Security and Privacy (VehicleSec) (*2023,2024*). Role: Technical Program Committee.
[PETS/PoPETS] 23rd Privacy Enhancing Technologies Symposium (*2023*). Role: Technical Program Committee of PETS and member of the Editorial Board of the Proceedings on PETS (PoPETs).
[IEEE SafeThings] IEEE Workshop on the Internet of Safe Things (IEEE SafeThings 2022). Co-located with the 43rd IEEE Symposium on Security and Privacy (IEEE S&P '22). Role: General Co-Chair.
[PETS/PoPETS] 22nd Privacy Enhancing Technologies Symposium (*2022*). Role: Technical Program Committee of PETS and member of the Editorial Board of the Proceedings on PETS (PoPETs).
[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).
[UK-SPS] UK Security and Privacy Seminar Series. (*2021*). Role(s): Organisation Committee.

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. (*2016,2022,2023*)
[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. (*2016,2017,2018,2019,2020,2022*)
[TMC] IEEE Transactions on Mobile Computing. (*2016,2017,2018,2019,2020,2022,2023*)
[TMSCS] IEEE Transactions on Multi-Scale Computing Systems. (*2017*)
[JISA] Journal of Information Security and Applications. (*2017*)

Internal Roles at Imperial College London

Teaching: Designed and led the instruction of CO447H (*Advanced Security in Smartphone and IoT Systems - Spring 2019*); co-leading the instruction for COMP70004/COMP97109/COMP97110 (Advanced Computer Security - Fall 2019, Fall 2020, Fall 2021, Spring 2023); co-led the instruction of COMP70032/COMP97069 (Computer Architecture - Fall 2019, Fall 2020, Fall 2021). Co-led the instruction of COMP40009 (Computing Practical 1 - Java).

DoC PhD Mentor: Serving as a point of contact and mentor to PhD students at the Department of Computing. (2023-present)

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. (2020-2021)

DoC Vice-Director of Undergraduate Admissions: Serving on the undergraduate admissions panel at the Department of Computing at Imperial College London. I have reviewed 412 applications, and interviewed 43 applicants to date. (2019-2021)

Supervision: Supervising 3 PhD candidates as first supervisor and working closely with another 3. Supervised more than 17 MEng/MS students to date.

Independent Assessor: Served as the independent assessor for the PhD milestones of 7 PhD candidates.

Tutoring: I served or currently serving as the personal tutor for >24 undergraduate students.

Second Marking: I second-mark exams for two other modules; and responsible for second-marking MS theses of >19 students to date.

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

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 appeared in the SPRITE+ network's website (read here), 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. **[SOSP '23 Paper Presentation – International]** I co-presented "XFaaS: Hyperscale and Low Cost Serverless Functions at Meta" at the 29th ACM Symposium on Operating Systems Principles (SOSP), October 2023.

2. **[OSDI '23 Paper Presentation – International]** I presented "ServiceRouter: Hyperscale and Minimal Cost Service Mesh at Meta" at the 17th USENIX Symposium on Operating Systems Design and Implementation (OSDI), July 2023. Presentation YouTube Link.

3. **[Invited Lecture on Mobile OS Security at CMU – International]** Delivered a lecture on Mobile OS Security at the Security for Software and Hardware Systems course at the School of Computer Science, Carnegie Mellon University, February, 2023.

4. **[Meta Core Systems Faculty Summit – International]** Talk title: "ServiceRouter: Meta's Scalable and Low Cost Global Service Mesh ". Presented one of the projects I've been working on during my visit at Meta, at the Meta Core Systems Faculty Summit, November, 2022.

5. **[Keynote Talk]** Talk title: "Analyzing and Designing the Security of a Mobile Platform". Invited for a keynote talk at the 2nd ACNS Workshop on Security in Mobile Technologies, June, 2021.

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

7. **[Invited Talk]** "apss Lab: Security and https://www.overleaf.com/project/5faa5c214d885243320e7f2aPrivacy 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.

8. **[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.

9. **[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.

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

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

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

13. **[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).

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

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

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

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

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

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

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

21. **[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.

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

23. **[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.

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

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

26. **[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.

27. **[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.

28. **[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.

29. **[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.

30. **[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.

31. **[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.

32. **[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.

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

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

35. **[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 2021, Fall 2020, Fall 2019, Department of Computing, Imperial College London. (https://co447.doc.ic.ac.uk/); Average individual lecturer score: 4.33/5.00; Average module score: 3.2/5.00

[COMP7003 Computer Architecture; Role: Co-Leading Instruction] Fall 2021, Fall 2020, Fall 2019, Department of Computing, Imperial College London. http://www.imperial.ac.uk/computing/current-students/courses/501/; Average individual lecturer score: 4.29/5.00; Average module score: 4.14/5.00

[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 2 undergraduate summer research projects.
[MEng/MSc] Supervised/ing 16 Master's theses.
[PhD] I'm currently the first supervisor for 3 PhD students. I also work closely with 3 more.

Academic Experience

Imperial College London   London, UK

Assistant Professor in Computer Systems Security	*Sep '18 – present*
Director of the Applications, Platforms and Systems Security Lab	*Sep '18 – present*
DoC PhD Tutor	*May '23 – present*
Co-led instruction of Computing Practical 1 (COMP40009)	*Spring '23*

Co-leading instruction of Advanced Computer Security (COMP97109/COMP97110)   *Fall '19, Fall '20, Fall '21, Spring '23, Spring '24*

Co-leading instruction of Computer Architecture (COMP97069)   *Fall '19, Fall '20, Fall '21*

Led instruction of CO447H	*Spring '19*
DoC Public Engagement Champion	*Sep '20 – Jan '22*
UG Admissions Vice-Director	*Sep '19 – Jan '22*

Reviewed 412 applications and interviewed 43 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 '18*
– 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

Meta Platforms, Inc.
<div align="right">SEATTLE (WA), USA</div>

Visiting Professor - Core Systems *Jan '22 – Jun '23*
– Working on projects related to service routing and load balancing, continuous development, serverless compute, and mobile configurations.
– Service Mesh paper accepted at OSDI '23.
– Continuous Deployment paper accepted at OSDI '23.
– Function–as–a–Service paper accepted at SOSP '23.

Hewlett Packard Labs
<div align="right">PALO ALTO (CA), USA</div>

Research Intern - Networking and Mobility Lab *Jun '16 – Jan '17*
– Designed an Internet of Things (IoT) automation framework. Related Patent: US10778516B2.
– Designed and evaluated a location optimization algorithm for connected cars. The solution reduces positioning errors by 9x. Related Patent: US10380889B2. Conference paper accepted at IEEE INFOCOM '18.
– Worked on user privacy violations through vision libraries used by Android apps. Conference paper accepted at ACM SenSys '17.
– Won the *best in class award* during the HPE Intern Project Fair.

Samsung Research America
<div align="right">MOUNTAIN VIEW (CA), USA</div>

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 '17.
– Worked on a security analysis on application installation on the Android operating system. Conference paper accepted at IEEE/IFIP DSN '17.
– Won the *best pitch award* during the Samsung Innovation Jam.

Future Worlds Center
<div align="right">NICOSIA, CYPRUS</div>

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
<div align="right">www.ekkotek.com</div>

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).