CV of Michael Sirivianos

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SUMMARY

I am an Assistant Professor of Computer Engineering and Informatics. I research ways to help social media users tell lies apart.

I hold a PhD from Duke University since 2010. My research interests include trust-aware design of distributed systems, device-centric authentication, federated identity management, discrimination based on personal data, cybersafety (cyberbullying detection, cybergrooming detection, characterization and detection of hate speech, detection of inappropriate videos targeting young children, and characterization and suppression of false information), transactional workload scalability, and measurement of blockchain systems.

I have published articles in the most influential conferences and journals of Networked Systems, including ACM SIGCOMM, USENIX NSDI, ACM IMC, USENIX ATC, AAAI ICWSM, IEEE INFOCOM, IEEE ICDCS, IEEE/ACM Transactions on Networking, and ACM Transactions on the Web.

I have extensive experience leading EU-funded projects. Specifically, I was the technical manager of the ReCRED project (Horizon 2020 Innovation Action - 2014) and the coordinator of the ENCASE project (Horizon 2020 Marie Curie RISE - 2015).

Our work on fringe web communities, hate speech, disinformation and disturbing content on YouTube had extensive coverage in major news outlets, including The New York Times, Washington Post, The Atlantic, New Scientist, Business Insider, Quartz, Wired and El Pais.

I am also the co-director of the Network Systems and Science Research Laboratory and a member of the Board of Directors of the CYENS Centre of Excellence.

EDUCATION

Sept 2008 - May 2010, Duke University, North Carolina, USA

> PhD in Computer Science

Sept 2004 - Sept 2008, University of California, Irvine, California, USA

> PhD Candidate in Networked Systems

Sept 2002 - July 2004, University of California, San Diego, California, USA

> MSc in Computer Science (Computer Communication Networks)

Sept 1997 - June 2002, National Technical University of Athens, Greece

> Diploma (BSc), Electrical and Computer Engineering, July, 2002

PUBLICATIONS

"How over is it?" Understanding the Incel Community on YouTube, K. Papadamou, S. Zannettou, J. Blackburn, E. De Cristofaro, G. Stringhini, M. Sirivianos, Under major revision for ACM CSCW, 2021

"It is just a flu": Assessing the Effect of Watch History on YouTube's Pseudoscientific Video Recommendations, K. Papadamou, S. Zannettou, J. Blackburn, E. De Cristofaro, G.

Stringhini, M. Sirivianos, Under major revision for AAAI ICWSM, 2021

Hihooi: A Database Replication Middleware for Scaling Transactional Databases Consistently, M. A. Georgiou, A. Paphitis, M. Sirivianos, H. Herodotou, IEEE Transactions on Knowledge and Data Engineering, 2020

SECONDO: A Platform for Cybersecurity Investments and Cyber Insurance Decisions, A. Farao, S. Panda, S.A. Menesidou, E. Veliou, N. Episkopos, G. Kalatzantonakis, F. Mohammadi, N. Georgopoulos, M. Sirivianos, N. Salamanos, S. Loizou, M. Pingos, J. Polley, A. Fielder, E. Panaousis, C. Xenakis, International Conference on Trust and Privacy in Digital Business (TrustBus), 2020

Killing the Password and Preserving Privacy with Device-Centric and Attribute-based Authentication, K. Papadamou, S. Zannettou, B.-C. Chifor, S. Teican, G. Gugulea, A. Recupero, A. Caponi, C. Pisa, G. Bianchi, S. Gevers, C. Xenakis and M. Sirivianos, IEEE Transactions on Information Forensics and Security, 2020

Disturbed YouTube For Kids: Characterizing And Detecting Inappropriate Videos Targeting Young Children, K. Papadamou, A. Papasavva, S. Zannettou and J. Blackburn, International AAAI Conference on Web and Social Media (ICWSM), 2020

The Web of False Information: Rumors, Fake News, Hoaxes, Clickbait, and Various Other Shenanigans, S. Zannettou, M. Sirivianos, J. Blackburn and N. Kourtellis, ACM Journal of Data and Information Quality, 2019

Disinformation Warfare: Understanding State-Sponsored Trolls on Twitter and Their Influence on the Web, S. Zannettou, T. Caulfield, E. D. Cristofaro, M. Sirivianos, G. Stringhini and J. Blackburn, Online Harassment and Misinformation, co-located with The Web Conference, 2019

Who let the trolls out? Towards Understanding State-Sponsored Trolls, S. Zannettou, T. Caulfield, W. Setzer, M. Sirivianos, G. Stringhini and J. Blackburn, ACM International Web Science Conference (WebSci), 2019

Towards Auto-Scaling Existing Transactional Databases with Strong Consistency, M. Georgiou, A. Paphitis, M. Sirivianos and H. Herodotou, International Workshop on Self-Managed Databases, co-located with IEEE ICDE, 2019

Russian Information Operations: Strategies And Tactics Of Influence, M. J. Jensen, N. Salamanos, X. He, Y. Chen and M. Sirivianos, Annual Meeting of the American Political Science Association, 2019

On the Influence of Twitter Trolls during the 2016 US Presidential Election, N. Salamanos, M. J. Jensen, X. He, Y. Chen and M. Sirivianos, ArXiv, 2019

On the Origins of Memes by Means of Fringe Web Communities, S. Zannettou, T. Caulfield, J. Blackburn, E. D. Cristofaro, M. Sirivianos, G. Stringhini and G. Suarez-Tangil, ACM Internet Measurement Conference (IMC), 2018

Understanding Web Archiving Services and Their (Mis)Use on Social Media, S. Zannettou, J. Blackburn, E. D. Cristofaro, M. Sirivianos, G. Stringhini, International AAAI Conference on the Web and Social Media (ICWSM), 2018

Large Scale Crowdsourcing and Characterization of Twitter Abusive Behavior, A. Founta, C. Djouvas, D. Chatzakou, I. Leontiadis, J. Blackburn, G. Stringhini, A. Vakali, M. Sirivianos and

N. Kourtellis. International AAAI Conference on Web and Social Media (ICWSM), 2018

The Good, the Bad and the Bait: Detecting and Characterizing Clickbait on YouTube, S. Zannettou, S. Chatzis, K. Papadamou and M. Sirivianos. 1st Deep Learning and Security Workshop (DLS), co-located with IEEE S&P, 2018

What is Gab? A Bastion of Free Speech or an Alt-Right Echo Chamber?, S. Zannettou, B. Bradlyn, E. D. Cristofaro, M. Sirivianos, G. Stringhini, H. Kwak, J. Blackburn. Workshop on Computational Methods in CyberSafety, Online Harassment and Misinformation, co-located with AAAI ICWSM, 2018.

From Risk Factors to Detection and Intervention: A Practical Proposal for Future Work on Cyberbullying, A. Ioannou, J. Blackburn, G. Stringhini, E. D. Cristofaro, N. Kourtellis, M. Sirivianos, Behaviour & Information Technology (TBIT), 2018

Cybersafety in Modern Online Social Networks (Dagstuhl Reports 17372), J. Blackburn, E. D. Cristofaro, M. Sirivianos and T. Strufe, Dagstuhl Reports, Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik, 2018

The Web Centipede: Understanding How Web Communities Influence Each Other Through the Lens of Mainstream and Alternative News Sources, S. Zannettou, T. Caulfield, E. D. Cristofaro, N. Kourtellis, I. Leontiadis, M. Sirivianos, G. Stringhini, J. Blackburn. ACM Internet Measurement Conference (IMC), 2017

Who is Fiddling with Prices? Building and Deploying a Watchdog Service for E-commerce, C. Iordanou, C. Soriente, M. Sirivianos and N. Laoutaris. ACM SIGCOMM, 2017

E-safety in Web 2.0 learning environments: a research synthesis and implications for researchers and practitioners, A. Parmaxi, K. Papadamou, M. Sirivianos and M. Stamatellatos, HCI International, 2017

Exploiting Path Diversity in Datacenters using MPTCP-aware SDN, S. Zannettou, M. Sirivianos, and F. Papadopoulos. IEEE Symposium on Computers and Communications (ISCC), 2016.

Cyber Security Risks for Minors: A Taxonomy and a Software Architecture, A. Tsirtsis, N. Tsapatsoulis, M. Stamatelatos, K. Papadamou, M. Sirivianos, 11th International Workshop on Semantic and Social Media Adaptation and Personalization (SMAP), 2016

Ensuring Authenticity and Fidelity of Captured Photos using Trusted Execution and Mobile Application Licensing Capabilities, K. Papadamou, R. Samaras, and M. Sirivianos 11th International Conference on Availability, Reliability and Security (ARES), 2016

Combating Friend Spam Using Social Rejections, Q. Cao, M. Sirivianos, Xiaowei Yang and K. Munagala. IEEE International Conference in Distributed Computing Systems (ICDCS), 2015

Exploiting Path Diversity with Multipath TCP, S. Zannettou, F. Papadopoulos, and M. Sirivianos, Poster in USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2015

Leveraging Social Feedback to Verify Online Identity Claims, M. Sirivianos, K. Kim, J.W. Gan and Xiaowei Yang, ACM Transactions on the Web, 2014

Sharing the Cost of Backbone Networks: Cui Bono?, L. Gyarmati, R. Stanojevic, M. Sirivianos

and N. Laoutaris, ACM Internet Measurement Conference (IMC), 2012

Aiding the Detection of Fake Accounts in Large Scale Social Online Services, Q. Cao, M. Sirivianos, Xiaowei Yang and T. Pregueiro, USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2012

Assessing the Veracity of Identity Assertions via OSNs, M. Sirivianos, K. Kim, J.W. Gan and Xiaowei Yang, Fourth International Conference on Communication Systems and Networks (COM-SNETS), 2012

Quantifying the Cost of Backbone Networks, L. Gyarmati, R. Stanojevic, M. Sirivianos and N. Laoutaris, IEEE conference on computer communications workshops (INFOCOM WKSHPS), 2012

Inter-Datacenter Bulk Transfers with NetStitcher, N. Laoutaris, M. Sirivianos, Xiaoyuan Yang and P. Rodriguez, ACM Conference on Applications Technologies Architectures and Protocols for Computer Communication (SIGCOMM), 2011

SocialFilter: Introducing Social Trust to Collaborative Spam Mitigation, M. Sirivianos, Xiaowei Yang and K. Kim, International Conference on Computer Communications (INFOCOM), 2011

Toward Attack-Resistant Distributed Information Systems by Means of Social Trust, M. Sirivianos, Duke PhD Thesis, 2011

SocialFilter: Introducing Social Trust to Collaborative Spam Mitigation, M. Sirivianos, K. Kim and Xiaowei Yang, Usenix Workshop on Collaborative Methods for Security and Privacy (CollSec), 2010

Robust and Efficient Incentives for Cooperative Content Distribution, M. Sirivianos, Xiaowei Yang and S. Jarecki, IEEE/ACM Transactions on Networking, 2009

FaceTrust: Assessing the Credibility of Online Personas via Social Networks, M. Sirivianos, K. Kim and Xiaowei Yang, USENIX Workshop on Hot topics in security (HotSec), 2009

Using Audio for Secure Device Pairing, M. Goodrich, M. Sirivianos, J. Solis, C. Soriente, G. Tsudik and E. Uzun, International Journal of Security and Networks", 2009

Poking Facebook: A Characterization of OSN Applications, M. Gjoka, M. Sirivianos, A. Markopoulou and Xiaowei Yang, SIGCOMM Workshop on Online Social Network (WOSN), 2008

Dandelion: Cooperative Content Distribution with Robust Incentives, M. Sirivianos, J. H. Park, Xiaowei Yang and S. Jarecki, USENIX Annual Technical Conference, 2007

Free-riding in BitTorrent Networks with the Large View Exploit, M. Sirivianos, J. H. Park, R. Chen and Xiaowei Yang, International Workshop on Peer-to-peer Systems (IPTPS), 2007

Non-Manipulable Aggregator Node Election Protocols for Wireless Sensor Networks, M. Sirivianos, D. Westhoff, F. Armknecht and J. Girao, Fifth International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks and Workshops, 2007

Loud and Clear: Human Verifiable Authentication Based On Audio, M. Goodrich, M. Sirivianos, J. Solis, G. Tsudik and E. Uzun, International Conference on Distributed Computing Systems (ICDCS), 2006

Dandelion: Cooperative Content Distribution with Robust Incentives, M. Sirivianos, Xiaowei Yang and S. Jarecki, Workshop on Economics of Networked Systems (NetEcon), 2006

FUNDING

AERAS: A CybEr range tRaining platform for medicAl organisations and systems Security, H2020 Marie Curie RISE; Total project funding: 1435,2K Euro. **Funding for CUT: 220,8K Euro;** Principal Investigator, 2020-2024.

CONCORDIA: Cyber security cOmpeteNCe fOr Research anD InnovAtion, H2020 CYBERSECURITY; Total project funding: 15998K Euro. **Funding for CUT: 256K Euro;** Principal Investigator, 2019-2023

SECONDO: a Security ECONomics service platform for smart security investments and cyber insurance pricing in the beyonD 2020 netwOrking era , H2020 Marie Curie RISE; Total project funding: 1173K Euro. **Funding for CUT: 255K Euro. RPF complementary funding: 12K;** Principal Investigator, 2019-2023

INCOGNITO: IdeNtity verifiCatiOn with privacy-preservinG credeNtIals for anonymous access To Online services, H2020 Marie Curie RISE; Total project funding: 1601K Euro. **Funding for CUT: 286K Euro. RPF complementary funding: 14K;** Scientific Coordinator of the consortium, 2019-2023

CyberSafety: CEF CYBERSAFETY II Telecom Safer Internet; Total project funding: 494,86K Euro. **Funding for CUT: 49,94K Euro;** Principal Investigator, 2018-2020.

ENCASE: ENhancing seCurity and privAcy in the Social wEb: a user-centered approach for the protection of minors, H2020 Marie Curie RISE; Total project funding: 2160K Euro. **Funding for CUT: 589K Euro;** Coordinator of the consortium, 2016-2020

NOTRE: Network for sOcial compuTing ResEarch, H2020 Twinning; Total project funding: 1000K Euro. **Funding for EECEI/CUT: 100K Euro;** 2016-2019

ReCRED: From Real-world Identities to Privacy-Preserving and Attribute-based CREDentials for Device-centric Access Control, H2020 - Digital Security - Access Control; Total project funding: 4997K Euro. **Funding for CUT: 517K Euro;** Principal Investigator and Technical Manager of the consortium, 2015-2018

PATENTS

Method and System for Detecting Fake Accounts in Online Social Networks, Q. Cao, M. Sirivianos and Xiaowei Yang, US Patent 20140317736, 2014

A Multi-Hop and Multi-Path Store and Forward System, Method and Product for Bulk Transfers, N. Laoutaris, M. Sirivianos, P. Rodriguez, and Xiaoyuan Yang, WO Patent WO/2012/034,607, 2012

BIBLIOMETRICS

Google Scholar as of February 1st, 2021

Number of citations: **2930**, *h-index:* **22**

Semantic Scholar as of February 1st, 2021

Number of influential citations: **218**

Department of Electrical Engineering, Computer Engineering and Informatics, Cyprus University of Technology, Limassol, Cyprus

Assistant Professor **January 2012 - present**

Telefonica Research, Scientific Group, Barcelona, Spain

Associate Researcher **June 2010 - January 2012**

Student Intern Researcher **May 2009 - Aug. 2009**
Worked with Dr. Pablo Rodriguez and Dr. Nikolaos Laoutaris on delay-tolerant bulk transfers

NEC Network Laboratories, Heidelberg, Germany

Student Intern Researcher **June 2006 - Dec. 2006**
Worked with Dr. Dirk Westhoff on secure aggregator node election protocols in wireless sensor networks

Bren School of Information and Computer Sciences U.C. Irvine, California, USA

Graduate Student Researcher **Nov. 2005 - Aug. 2008**
Worked with Prof. Xiaowei Yang and Prof. Stanislaw Jarecki on cooperative content distribution using robust cryptographic incentives

Graduate Student Researcher **June 2005 - Nov. 2005**
Worked with Prof. Gene Tsudik and Prof. Michael Goodrich on audio-based human verifiable device authentication

San Diego Supercomputer Center, La Jolla, California, USA

Programmer in Data and Knowledge Systems for the Geon Project. **June 2004 - Sept. 2004**

Systems and Networking Laboratory, U.C. San Diego, La Jolla, California, USA

Graduate Student Researcher **Sept. 2003 - Aug. 2004**
Worked towards the MSc Thesis with Prof. Keith Marzullo and Prof. Geoffrey Voelker on Epidemic Overlays for Multicast In Mobile Ad Hoc Networks

Workshop Organizer: Publicity co-chair for Cybersafety 2019, co-located with The Web Conference 2019; Co-organizer of the Dagstuhl Seminar on "Cybersafety in Modern Online Social Networks" 2017; TPC co-chair, HotPost 2016, co-located with MobiHoc 2016

Program Committee Member: IEEE ICNP 2021 Area Chair; ACM SIGMETRICS 2020; AAAI ICWSM 2019, 2020, 2021; ACM CONEXT 2019; Cybersafety 2019, 2020; IEEE INFOCOM 2014, 2015, 2016, 2017; WWW 2013; NetEcon 2012; Global Internet 2012, 2015

Reviewer:, ACM Transactions on the Web 2014, 2015; IEEE/ACM Transactions on Networking 2011, 2012, 2015; Performance Evaluation Journal, Elsevier 2008; Computer Networks Journal, Elsevier 2009, 2010, 2011; IEEE Transactions on Parallel and Distributed Systems 2011; IEEE Transactions on Mobile Computing 2011; ACM PODC 2014

2019 Workshop on Computational Methods in CyberSafety, Online Harassment and Misinformation, co-located with the Web Conference

Distinguished Paper "Disinformation Warfare: Understanding State-Sponsored Trolls on Twitter and Their Influence on the Web"

2018 ACM Internet Measurement Conference (IMC)

Distinguished Paper "On the Origins of Memes by Means of Fringe Web Communities"

2015/2016 IEEE International Conference on Computer Communications (INFOCOM)

Distinguished Member of the 2015/16 INFOCOM Technical Program Committee. This distinction is awarded based upon peer ratings among the TPC members.

April 2008 UC Irvine

1st place winner of the 2008 hiTEC product development competition at the Bren School of Computer Science, and 3rd place winner in the 2008 SYCR business plan competition at the Merage School of Business for adball.com; a web site for crowdsourcing advertising campaigns.

June 2006 UCI ICS

Outstanding TA award

Sept. 2002 - June 2004 Cyprus Fulbright Commission

Full graduate (MS) grant

Sept. 1997 - June 2002 State Scholarship Foundation of Greece

Scholarship for excellence in highly competitive university entrance examinations