

Curriculum Vitae

Panagiotis Papadopoulos, Ph.D.

Security Researcher & Engineer

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PERSONAL INFORMATION

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LinkedIn: [linkedin.com/in/panagiotis-panos-papadopoulos-7aa80560](https://www.linkedin.com/in/panagiotis-panos-papadopoulos-7aa80560)
Interests: Security & Privacy, Fraud Detection, Anonymity, Ad Transparency, Applied Cryptography, Networks and Web, Internet Measurements, Distributed Systems

EXPERIENCE

Security Researcher *October 2020 - present*
Telefonica Research *Barcelona, Spain*

- Role: Conducting research related to Web Security & Privacy, and Fraud Detection.

Cyber Security Consultant *August 2020 - September 2020*
DataSpartan *London, UK*

- Role: The firm's Security expert providing cyber-security consultancy services to Blockchain companies and startups.

Security Researcher *September 2018 - September 2020*
Brave Software Inc. *London, UK*

- Role: Responsible for leading the company's security-related research. I design and lead the development of innovative solutions related to detection and prevention of fraud (e.g., Sybil attacks, API exploitation, ad fraud, referral fraud, etc.) that preserve the privacy of the user.

Assistant Researcher *January 2012 - September 2018*
Distributed Computing Systems Lab, (ICS-FORTH) *Heraklion, Crete*

- Supervisors: Prof. Evangelos P. Markatos, Dr. Sotiris Ioannidis
- Participation in several EU-funded projects (SysSec, Protasis, Tracer, ForToo).
- Fields of Research: Privacy, Transparency and Anonymization, Network Security.

Research Intern *October 2017*
Queen Mary University of London *London, UK*

- Supervisors: Prof. Hamed Haddadi,
- Fields of Research: IoT Privacy
- Summary: Research intern in the EPSRC Project Databox on Privacy-Aware Personal Data Platforms with Prof. Hamed Haddadi and Thomas Lodge (University of Nottingham).

Research Intern *October 2016 - February 2017*
Telefonica Research *Barcelona, Spain*

- Supervisors: Dr. Nicolas Kourtellis,
- Fields of Research: Web Privacy
- Summary: We conducted the first to our knowledge full-scale longitudinal study about Cookie Synchronization in the wild. In particular, we investigated this mechanism, which is used as a workaround for same origin policy along with the privacy leak it causes to the users.

Research Intern *November 2015 - March 2016*
Telefonica Research *Barcelona, Spain*

- Supervisors: Dr. Nikolaos Laoutaris, Dr. Nicolas Kourtellis

- Fields of Research: Web Advertising & Privacy
- Summary: We measured the monetary cost the advertisers pay for the user's private data. By tapping on programmatic auctions and RTB protocol, we trained a model, that uses as input the private data the user leaks, to extract the per-impression cost paid at real-time, either when the price is encrypted or not.

Undergraduate Trainee

Distributed Computing Systems Lab, (ICS-FORTH)

September 2011 - December 2011

Heraklion, Crete

- Supervisor: Prof. Evangelos P. Markatos
- Participation in the EU-funded project i-Code (Real-time Malicious Code Identification)
- Fields of Research: Web Privacy

Teaching Activities

Computer Science Department, University of Crete, Greece

Spring 2012 - Spring 2018

Heraklion, Crete

- Teaching Assistance in several courses:
 - Introduction to Information Security Systems (CS457) Spring 2018 - Prof. E. Markatos, University of Crete
 - Game Theory (CS693) Spring 2017 - Prof. A. Traganitis, University of Crete
 - Internet Systems and Technologies (CS558) Spring 2015 - Prof. E. Markatos, University of Crete
 - Network Measurements (CS459) Spring 2014 - Prof. E. Markatos, University of Crete
 - Operating Systems (CS345) Fall 2013, 2014, 2015 - Prof. E. Markatos, University of Crete
 - Laboratory in Software Engineering (CS255) Spring 2013 - Prof. A. Bilas, University of Crete
 - Data Structures (CS240) Fall 2012 - Prof. P. Fatourou, University of Crete
 - Web Programming (CS359) Spring 2012 - Prof. Y. Tzitzikas, University of Crete

EDUCATION

Ph.D. in Computer Science

University of Crete, Greece

March 2014 - September 2018

Thesis Topic: *The Advertising Ecosystem and its Impact on the User Privacy*

Academic Advisor: Prof. Evangelos P. Markatos, Prof. Sotiris Ioannidis

M.Sc. in Computer Science

University of Crete, Greece

February 2012 - February 2014

Thesis Topic: *Anonymous Microblogging Browsing through obfuscation*

Academic Advisor: Prof. Evangelos P. Markatos, Prof. Sotiris Ioannidis

Overall GPA: 9.36/10

B.Sc. in Computer Science

University of Crete, Greece

September 2006 - July 2011

Thesis Topic: *Questioning the security of cross-domain components of Web 2.0 Mashups*

Academic Advisor: Prof. Evangelos P. Markatos

Overall GPA: 7.12/10

TECHNICAL SKILLS

Operating systems

Linux, OSX

Programming Languages

Rust, NodeJS, Java, Python, JavaScript, C, Ruby, Bash, R

Other

AWS, Redis, Postgres, Git, Kafka, Serverless, Docker, \LaTeX

BLOG POSTS

- **THEMIS: Towards a Decentralized Ad Platform with Reporting Integrity**, Gonalo Pestana, Inigo Querejeta-Azurmendi, Panagiotis Papadopoulos and Benjamin Livshits, 2020
<https://brave.com/themis/>

- **THEMIS: Progressive Decentralization with Smart Contracts and Sidechains**, Gonalo Pestana, Iñigo Querejeta-Azurmendi, Panagiotis Papadopoulos and Benjamin Livshits, 2020
<https://brave.com/themis-smart-contracts-and-sidechains/>
- **VPN0: A Privacy-Preserving Distributed Virtual Private Network**, Matteo Varvello, Iñigo Querejeta-Azurmendi, Panagiotis Papadopoulos, Gonalo Pestana and Benjamin Livshits, 2019,
<https://brave.com/vpn0-a-privacy-preserving-distributed-virtual-private-network/>
- **zkSENSE: a Privacy-Preserving Mechanism for Bot Detection in Mobile Devices**, Stan (Jiexin) Zhang, Panagiotis Papadopoulos, Benjamin Livshits, 2019,
<https://brave.com/zksense-a-privacy-preserving-mechanism-for-bot-detection-in-mobile-devices/>

SELECTED PEER-REVIEWED PUBLICATIONS

- Inigo Querejeta Azurmendi, Panagiotis Papadopoulos, Matteo Varvello, Jiexin Zhang, Antonio Nappa, Benjamin Livshits **ZKSENSE: a Privacy-Preserving Mechanism for Bot Detection in Mobile Devices**, In proceedings of the 21st Privacy Enhancing Technologies Symposium (PETS 2021), July 2021, The Internet.
- Emmanouil Papadogiannakis, Panagiotis Papadopoulos, Nicolas Kourtellis and Evangelos Markatos, **User tracking in the post-cookie era: How websites bypass GDPR consent to track users**, In proceedings of the 30th International World Wide Web Conference (**WWW’21**), April 2021, Ljubljana, Slovenia.
- Jordan Jueckstock, Shaown Sarker, Peter Snyder, Aidan Beggs, Panagiotis Papadopoulos, Matteo Varvello, Ben Livshits and Alexandros Kapravelos, **Towards Realistic and Reproducible Web Crawl Measurements**, In proceedings of the 30th International World Wide Web Conference (**WWW’21**), April 2021, Ljubljana, Slovenia.
- Michalis Pachilakis, Antonios Chariton, Panagiotis Papadopoulos, Panagiotis Ilia, Eirini Degkleri, Evangelos P. Markatos, **Design and Implementation of a Compressed Certificate Status Protocol**, In proceedings of ACM Transactions on Internet Technology (**TOIT’20**).
- Panagiotis Papadopoulos, Peter Snyder, Dimitrios Athanasakis, Benjamin Livshits, **Keeping Out the Masses: Understanding the Popularity and Implications of Internet Paywalls**, In proceedings of the 29th International World Wide Web Conference (**WWW’20**), April 2020, Taiwan, Taipei.
- Alexander Sjosten, Peter Snyder, Antonio Pastor, Panagiotis Papadopoulos, Benjamin Livshits, **Filter List Generation for Underserved Regions**, In proceedings of the 29th International World Wide Web Conference (**WWW’20**), April 2020, Taiwan, Taipei.
- Pushkal Agarwal, Sagar Joglekar, Panagiotis Papadopoulos, Nishanth Sastry, Nicolas Kourtellis **Stop Tracking Me Bro! Differential Tracking Of User Demographics On Hyper-partisan Websites**, In proceedings of the 29th International World Wide Web Conference (**WWW’20**), April 2020, Taiwan, Taipei.
- Michalis Pachilakis, Panagiotis Papadopoulos, Evangelos P. Markatos, Nicolas Kourtellis, **No More Chasing Waterfalls: A Measurement Study of the Header Bidding Ad-Ecosystem**, In proceedings of the 19th Internet Measurement Conference (**IMC’19**), October 2019, Amsterdam, The Netherlands.
- Panagiotis Papadopoulos, Panagiotis Ilia, Evangelos P. Markatos. **Truth in Web Mining: Measuring the Profitability and the Imposed Overheads of Cryptojacking**, In proceedings of the 22nd Information Security Conference (**ISC’19**), September 2019, New York, USA.
- Panagiotis Papadopoulos, Nicolas Kourtellis, Evangelos P. Markatos. **Cookie Synchronization: Everything You Always Wanted to Know But Were Afraid to Ask**, In proceedings of the 28th International World Wide Web Conference (**WWW’19**), April 2019, San Francisco, California, USA.
- Panagiotis Papadopoulos, Panagiotis Ilia, Michalis Polychronakis, Evangelos P. Markatos, Sotiris Ioannidis, Giorgos Vasiliadis. **Master of Web Puppets: Abusing Web Browsers for Persistent and Stealthy Computation**,

In proceedings of the 26th Network and Distributed System Security Symposium (**NDSS'19**), February 2019, San Diego, California, USA.

- Panagiotis Papadopoulos, Antonis Papadogiannakis, Michalis Polychronakis, Evangelos P. Markatos, **Is Privacy possible without Anonymity? The case for microblogging services**, Proceedings of the 12th European Workshop on Systems Security (**EuroSec'19**), March 2019, Dresden, Germany.
- Panagiotis Papadopoulos, Nicolas Kourtellis, Evangelos P. Markatos. **The Cost of Digital Advertisements: Comparing User and Advertiser Views**, In proceedings of the 27th International World Wide Web Conference (**WWW'18**), April 2018, Lyon, France.
- Panagiotis Papadopoulos, Antonios A. Chariton, Elias Athanasopoulos, Evangelos P. Markatos. **Where's Wally? How to Privately Discover your Friends on the Internet**, In proceedings of the 13th ACM Asia Conference on Computer and Communications Security (**AsiaCCS'18**), June 2018, Songdo, Incheon, South Korea.
- Panagiotis Papadopoulos, Nicolas Kourtellis, Evangelos P. Markatos. **Exclusive: How the (synced) Cookie Monster breached my encrypted VPN session**, In proceedings of the 11th European Workshop on Systems Security (**EuroSec'18**), April 2018, Porto, Portugal.
- Giannis Tzagarakis, Panagiotis Papadopoulos, Antonios A. Chariton, Elias Athanasopoulos, Evangelos P. Markatos. **Opass: Zero-storage Password Management Based on Password Reminders**, In proceedings of the 11th European Workshop on Systems Security (**EuroSec'18**), April 2018, Porto, Portugal.
- Panagiotis Papadopoulos, Nicolas Kourtellis, Pablo Rodriguez Rodriguez, Nikolaos Laoutaris. **If you are not paying for it, you are the product: How much do advertisers pay to reach you?**, In proceedings of the 17th Internet Measurement Conference (**IMC'17**), 2017, London, UK.
- Panagiotis Papadopoulos, Giorgos Christou, Giorgos Vasiliadis, Evangelos P. Markatos, Sotiris Ioannidis. **No sugar but all the taste! Memory Encryption without Architectural Support**, In proceedings of the 22nd European Symposium on Research in Computer Security (**ESORICS'17**), 2017, Oslo, Norway.
- Elias Papadopoulos, Michalis Diamantaris, Panagiotis Papadopoulos, Thanasis Petsas, Sotiris Ioannidis and Evangelos P. Markatos. **The Long-Standing Privacy Debate: Mobile Websites Vs Mobile Apps**, In proceedings of the 26th International World Wide Web Conference (**WWW'17**), 2017, Perth, Australia. (Best Paper Honorable Mention)
- Antonios Chariton, Eirini Degkleri, Panagiotis Papadopoulos, Panagiotis Ilia, Evangelos P. Markatos. **CCSP: a Compressed Certificate Status Protocol**, In proceedings of IEEE International Conference on Computer Communications (**INFOCOM'17**), Atlanta, USA.
- Panagiotis Papadopoulos, Elias Athanasopoulos, Eleni Kosta, George Siganos, Angelos D. Keromytis and Evangelos P. Markatos. **Provable Network Activity for Protecting Users against False Accusation**, In proceedings of the 10th International Conference on Information Security Theory and Practice (**WISTP'16**).
- Antonios Chariton, Eirini Degkleri, Panagiotis Papadopoulos, Panagiotis Ilia, Evangelos P. Markatos. **DCSP: Performant Certificate Revocation a DNS-based approach**, In proceedings of the 9th European Workshop on System Security (**EuroSec'16**). April 2016, London, UK.
- Panagiotis Garefalakis, Panagiotis Papadopoulos and Kostas Magoutis **ACaZoo: A Distributed Key-Value Store based on Replicated LSM-Trees**. In Proceedings of 33rd IEEE Symposium on Reliable Distributed Systems (**SRDS'14**). October 2014, Nara, Japan. (Best Student Paper Award)
- Panagiotis Garefalakis, Panagiotis Papadopoulos, Ioannis Manousakis and Kostas Magoutis **Strengthening Consistency in the Cassandra Distributed Key-Value Store** 13th International IFIP Conference on Distributed

Applications and Interoperable Systems (**DAIS'13**). June 2013, Florence, Italy.

- Panagiotis Papadopoulos, Antonis Papadogiannakis, Michalis Polychronakis, Apostolis Zarras, Thorsten Holz, Evangelos P. Markatos. **k-subscription: Privacy-preserving Microblogging Browsing through Obfuscation**. In Proceedings of the 2013 Annual Computer Security Applications Conference (**ACSAC'13**). December 2013, New Orleans, Louisiana, USA.

TECHNICAL REPORTS AND WORK IN PROGRESS

- **Decentralized and Trustless Ad Platform with Reporting Integrity**, Gonalo Pestana, Iñigo Querejeta-Azurmendi, Panagiotis Papadopoulos and Benjamin Livshits.
- **WRIT: Web Requests Integrity and Attestation**, Giorgos Vasiliadis, Apostolis Karampelas, Alexander Shevtsov, Sotiris Ioannidis, Panagiotis Papadopoulos, Alexandros Kapravelos.
- **ScrambleSuit: A Tool for Evading Malware Analysis Sandboxes using PoW-based Timing Side Channels**, Antonio Nappa, Panagiotis Papadopoulos, Matteo Varvello, Daniel Aceituno, Juan Tapiador, Andrea Lanzi.
- **The Rise and Fall of Fake News sites: A Traffic Analysis**, Emmanouil Xalkiadakis, Alexandros Kornilakis, Panagiotis Papadopoulos, Evangelos P. Markatos, Nicolas Kourtellis.
- **Privacy Risks from Public Data Sources**, Panagiotis Papadopoulos, Zacharias Tzermias, Sotiris Ioannidis, Vassilis Prevelakis.
- **OUTOPIA: Privacy-Preserving User Discovery on the Internet**, Panagiotis Papadopoulos, Michalis Pachilakis, Antonios Chariton, Evangelos P. Markatos.
- **VPN0: A Privacy-Preserving Decentralized Virtual Private Network**, Matteo Varvello, Iñigo Querejeta-Azurmendi, Antonio Nappa, Panagiotis Papadopoulos, Gonalo Pestana and Benjamin Livshits.
- **Measuring Ad Value Without Bankrupting User Privacy**, Michalis Pachilakis, Panagiotis Papadopoulos, Nikolaos Laoutaris, Evangelos P. Markatos, Nicolas Kourtellis.

HONORS & AWARDS

Doctoral Fellowship

June 2018

Committee of Computer Science Department, University of Crete

The University of Crete awards every year 20 honorary “Maria Michail Manasaki” Bequest Fellowships: 10 fellowships are awarded to the Faculty of Medicine and 10 to the Faculty of Sciences and Engineering. Fellowships consist of a 6,000.00 Euro award. The Department of Computer Science awards with its Manasaki Fellowships one exceptional Ph.D. candidate at the end of each academic year.

Doctoral Scholarship

May 2017

Committee of ELIDEK 2017

- Honored to receive 1 of the 125 scholarships (2nd best grade in University of Crete) of the 1st Hellenic Foundation for Research and Innovation (ELIDEK) Scholarships for Doctoral Candidates in Computer Science and Engineering in Greece. The selection was made based on the scientific background and the ability of the candidates to implement the research work undertaken as part of their thesis. Each proposal was reviewed by two independent experts and the final evaluation and ranking of the proposals made by special committees comprised of distinguished scientists in the particular scientific area.

Best Paper Honorable Mention

April 2017

Committee of WWW 2017

- Best Paper Honorable Mention evaluated by the Best Paper Honorable Mention Committee of the 26th International World Wide Web Conference (WWW 2017): David Carmel (Yahoo Research; committee chair), Qiaozhu Mei (University of Michigan), Jian Pei (Simon Fraser University), and Elad Yom-Tov (Microsoft Research).

Best Student Paper Award

October 2014

Committee of SRDS 2014

- Best Student Paper Award evaluated by the Best Paper Award Co-Chairs of the 33rd IEEE International Symposium on Reliable Distributed Systems (SRDS 2014).

Selected for Participation in HLF'18*September 2018**Scientific Committee of Heidelberg Laureate Forum Foundation*

- Honored to be selected as 1 of the 200 Young researchers that will participate in the 6th Heidelberg Laureate Forum (HLF'18), Heidelberg Germany.

Travel Grant*January 2019**NDSS Travel Grant review Committee*

- Recipient of Student Travel grant to attend the 26th annual Network and Distributed System Security (NDSS) Symposium in San Diego, California.

Travel Grant*September 2018**The Bioinformatics and Human Electrophysiology Lab (BiHELab)*

- Selected as the only Greece-based Young Researcher to receive BiHELab Grant for participating in the 6th Heidelberg Laureate Forum (HLF'18).

Student Conferenceship Award*April 2016**EuroSys Committee*

- Travel grant to attend EuroSys conference 2016 held in London, UK

Student Conferenceship Award*November 2014**IMC Committee*

- Travel grant to attend Internet Measurement Conference (IMC 2014) held in Vancouver, BC, Canada

Student Conferenceship Award*December 2013**ACSAC Committee*

- Student Conferenceship Award for the Annual Computer Security Applications Conference (ACSAC 2013) held in New Orleans, Louisiana, USA

Distinguished position in Teaching Assistance*February 2013 - July 2013*

- Honored to receive one of the five distinct positions in teaching assistance during the spring semester of 2013. The selection was made from the University of Crete in accordance to the ranking of the candidates based on the GPA during their postgraduate studies.

Undergraduate Scholarship*September 2011 - December 2011*

- Scholarship by the Foundation for Research and Technology - Hellas (FORTH)

INVITED TALKS

Seminar Series: CyberSecurity in Spring*University of Crete, 2021*

- Title: *Differential Tracking of User Demographics on Hyper-Partisan Websites*
- <https://www.csd.uoc.gr/CSD/index.jsp?custom=SeminarSeriesF>

Course: Sensing and the Internet of Things*Imperial College London, 2020*

- Title: *A zero knowledge proof-based humanness attestation system to replace CAPTCHAs in mobile devices*

Greek Cryptocurrency Community Meetup*Athens, 2020*

- Title: *Rebooting the Web: Brave Browser and Basic Attention Token*
- <https://www.youtube.com/watch?v=HEtm8Y9kujo>

**European Data Protection Supervisor,
Internet Privacy Engineering Network***Rome, 2020*

- Title: *Panel on Web Tracking: Exposing and limiting web tracking - technology, design, litigation and enforcement*
https://edps.europa.eu/data-protection/our-work/ipen/ipen-2020-panel-web-tracking_en

**European Data Protection Supervisor,
Internet Privacy Engineering Network**

Brussels, 2019

- Title: *Monetising without surveillance: The Brave Ad Platform.*
https://edps.europa.eu/ipen-rome-workshop-2019_en

European Union Satellite Centre (SatCen)

Madrid, 2018

- Title: *The Next Generation Threats and Cyber Security Challenges.*

PROTASIS Marie Skłodowska-Curie IoT Workshop

Dagstuhl, 2017

- Title: *Syncing the cookie monster: A longitudinal study of cookie syncing and its impact on user privacy.*
<http://www.dagstuhl.de/17143>

Athens Cassandra Meetup

Athens, 2015

- Title: *Cassandra Consistency - Trade-offs and Limitations*
<http://www.meetup.com/Athens-Cassandra-Users/events/220922960/>

EXTERNAL SERVICE

Organizer

2019

- 1st Brave London Privacy Meetup
<https://www.eventbrite.com/e/brave-privacy-meetup-tickets-75221267837>

Program Committee Member

- 22nd Privacy Enhancing Technologies Symposium (PETS 2022)/ Editorial Board of the Proceedings on Privacy Enhancing Technologies (PoPETs)
- 1st Workshop on Security and Privacy for Mobile AI (MAISP 2022)
- 32nd International World Wide Web Conference (WWW 2021)
- 31st International World Wide Web Conference (WWW 2020)

Publicity Chair

2016

- 11th International Workshop on Security and Trust Management (STM 2016)

Session Chair

2016

- 21th European Symposium on Research in Computer Security (ESORICS 2016)
- 11th International Workshop on Security and Trust Management (STM 2016)

SUPERVISED STUDENTS

- Alex Kornilakis (Graduate Trainee at FORTH-ICS):
 “Incognito Mode for Privacy-Preserving Browsing in Online Social Networks”
- Antonio A. Pastor (PhD student at Universidad Carlos III de Madrid):
 “Automated Evaluation of the Accuracy of Ad-block Lists”
- Stan Zhang (PhD student at University of Cambridge):
 “Application-level continuous privacy-preserving human attestation”
- Eirini Degkleri (MSc Student in University of Crete):
 “A Large-Scale Analysis of the SSL Certificates in Certificate Transparency”

- Manolis Karampinakis (MSc Student in University of Crete):
“Investigative study of the growing technology of blockchain”
- Michalis Pachilakis (MSc Student in University of Crete):
“Design and Implementation of a Compressed Certificate Status Protocol”
- Ilias P. Papadopoulos (MSc Student in University of Crete):
“The Long-Standing Privacy Debate: Mobile Websites Vs Mobile Apps”
- Apostolos Karabelas (Graduate Trainee at FORTH-ICS):
“Secure Attestation of Human Interactions on the Web”
- Emmanouil Papadogiannakis (MSc Student in University of Crete):
“User tracking in the post-cookie era: How websites bypass GDPR consent to track users”
- George Pantelakis (Graduate Trainee at FORTH-ICS):
“Analysis of the ad-blocker evading Web Push ad-model and its impact 'on the user privacy’

PARTICIPATION IN EU-FUNDED PROJECTS

PIMCITY - Horizon 2020

2020

- When browsing the internet or shopping online, users leave behind digital traces – information that is revealed to the sites visited. This is good for websites, which want to know as much as possible about their visitors to show them targeted ads or to improve user experience. The EU-funded PIMCITY project aims to boost transparency and provide users control over their data. The project is creating the tools: a PIMS development kit (PDK) to commoditise the complexity of creating a personal information management system (PIMS). It will also develop transparency tags (TT) to show users information about the e-services they access, and a personal data avatar (PDA) to help users control the information shared to third parties. <https://cordis.europa.eu/project/id/871370>

PROTASIS - Marie Skłodowska-Curie Actions

2016

- PROTASIS aims to expand the reach of SysSec to the international community via a joint research program in the area of Systems Security spearheaded by the need to develop a computing infrastructure that will be trusted by the citizens and the organizations they use it. Through a novel international and intersectoral program the participants will advance the state-of-the art in the area of security and privacy and will sharpen their skills using the most advanced methods for cyberattacks and malware. <http://www.protasis.eu/>

FORTOO - Horizon 2020

2014

- The project aims to develop digital forensics tools that will: (i) identify, (ii) analyze and (iii) visualize illegal activities on the Internet. The objectives of this project are: (i) to design and prototype a toolkit that will detect illegal activities both proactively and after-the-fact, (ii) to identify the source and perpetrators of the illegal activities, both in terms of virtual/network and, as much as possible, physical location, (iii) to profile the expertise and motive of the attackers, (iv) to present the relevant information in a way that will be usable by investigating authorities, and (v) to maximize the impact of the project through aggressive and effective dissemination of the project’s results. <http://www.fortoo.eu/>

TRACER

2014

- Legacy systems are likely to contain software vulnerabilities that can lead to various security breaches. On the other hand, these systems contain valuable information about the environment, the creation and the evolution of the organization they support. For this reason, redesigning large systems in order to be secure and compatible with new technologies is not a practical option, since the information mentioned above could be lost. In addition the cost of replacing such system and retrain its various users, could be prohibitive. In this project we propose a framework that shields legacy systems based on two basic steps: First, our framework analyzes the source code of the system to identify potential software vulnerabilities and eliminates them. Then, depending on the previous analysis the framework proposes solutions to protect the system from the most common web-application attacks. <http://tracer.dmst.aueb.gr/>