

George Argyros

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RESEARCH INTERESTS

Program analysis and verification, machine learning, software security and exploitation, privacy, cryptography.

EDUCATION

PhD in Computer Science, Sep. 2012 - Sep. 2018
Columbia University, New York, NY
Advisors: Angelos D. Keromytis, Tal Malkin

M.Sc. in Computer Science, Sep. 2012 - Sep. 2014
Columbia University, New York, NY
GPA: 3.96/4.00

B.Sc. in Informatics and Telecommunications, Sep. 2006 - Sep. 2012
University of Athens, Athens, Greece
Advisors: Aggelos Kiayias, Alex Delis

PROFESSIONAL EXPERIENCE

Junior Researcher - Contractor, Sep. 2018 - Dec. 2018
Microsoft Research, Redmond, WA
Worked on applying active learning algorithms for testing.

Research Intern, Feb. 2018 - May. 2018
Microsoft Research, Redmond, WA
Worked on and implemented active learning and synthesis algorithms.

Visiting Researcher, Jan. 2014 - Apr. 2014
University of Haifa, Haifa, Israel
Worked with professor Orr Dunkelman on the complexity of breaking multiple encryption.

Research Assistant, Sep. 2011 - Sep. 2012
University of Athens, Athens, Greece
Worked with professor Aggelos Kiayias on cryptanalysis of hash functions and pseudorandom number generators[7].

Consultant, Sep. 2010 - Sep. 2012
Cyber-Defense Agency, Department of Defense, Greece
Work details are protected by a confidentiality agreement.

Intern, Mar. 2011 - Jul. 2011
Census Inc., Athens, Greece
Responsibilities included code auditing and penetration testing.

Research Associate, Dec. 2009 - Jul. 2010
Computer Technology Institute, Athens, Greece
Conducted research in program analysis tools. Also worked on the development of the PROTOS early warning system[8].

ACADEMIC EXPERIENCE

4th BIU winter school - Symmetric encryption in theory and practice Jan. 2014
Bar Ilan University, Tel Aviv, Israel
Attended lectures.

ECRYPT II Summer School on Tools May 2012
Mykonos, Greece
Attended Lectures.

First International SAT/SMT Solver Summer School Jun. 2011
MIT, Boston
Attended lectures.

AthCon Security Conference. 2011, 2012
Athens, Greece
Member of the program committee.

External Reviewer
Eurocrypt 2010, Eurocrypt 2011, ACNS 2013, CCS 2013, CCS 2014, CRYPTO 2014, IWSEC 2014, COLT 2017.

TEACHING EXPERIENCE

Teaching Assistant, Introduction to Cryptography Fall 2014
Instructor: Professor Tal Malkin.
Responsibilities included grading, student tutoring and lecturing.

Teaching Assistant, Cryptography and Financial Processes Fall 2013
Instructor: Professor Michael O. Rabin.
Responsibilities included grading, student tutoring.

Teaching Assistant, Computer Security Spring 2009, 2010, 2011
Instructor: Professor Aggelos Kiayias
Responsibilities included homework assignments design, students tutoring and lecturing.

OTHER NOTABLE EXPERIENCE

Panoptis National Cyber-Defense Exercise 2010, 2011
Athens, Greece
Participated in national cybersecurity exercise including more than 30 different military units, public sector services and universities. Part of a small team (approximately 10 members) responsible for designing the challenge exercises. Responsible for the web application security challenge.

NATO "NCDEX" Cyber-Defense Exercise 2010
Athens, Greece
Cyber-Defense exercise including all NATO member states. Part of the team representing university of Athens, responsible for solving the cyber-security challenges given as part of the exercise.

TECHNICAL SKILLS

Programming Languages: C/C++, Python, PHP, x86 assembly, Java, Bash, Pd.

Operating Systems: Linux, Oracle Solaris, Microsoft Windows.

Spoken Languages: English (Fluent), French (Conversant), Greek (Native).

PUBLICATIONS

Conference Publications

- [1] **G. Argyros**, M. Veanes, I. Stais. “Towards Learning Functional Transducers” Under submission.
- [2] **G. Argyros**, Loris D’Antoni. “The Learnability of Symbolic Automata”, International Conference on Computer Aided Verification (CAV), 2018
- [3] S. Sivakorn, **G. Argyros**, K. Pei, A. D. Keromytis, S. Jana. “HVLearn: Automated Black-box Analysis of Hostname Verification in SSL/TLS Implementations”, Proceedings of the 38th IEEE Symposium on Security & Privacy (Oakland), 2017
- [4] **G. Argyros**, I. Stais, S. Jana, A. D. Keromytis, A. Kiayias. “SFADiff: Automated Evasion Attacks and Fingerprinting Using Black-box Differential Automata Learning”, ACM Conference on Computer and Communications Security (CCS), 2016.
- [5] **G. Argyros**, I. Stais, A. Kiayias, A. D. Keromytis. “Back in Black: Towards Formal, Black Box Analysis of Sanitizers and Filters”, Proceedings of the 37th IEEE Symposium on Security & Privacy (Oakland), 2016
- [6] J. Polakis, **G. Argyros**, Theofilos Petsios, Suphanee Sivakorn, Angelos D. Keromytis. “Where’s Wally? Precise User Discovery Attacks in Location Proximity Services”, Proceedings of the 22nd ACM SIGSAC Conference on Computer and Communications Security (CCS), 2015.
- [7] **G. Argyros**, A. Kiayias. “I Forgot Your Password: Randomness Attacks Against PHP Applications”, Proceedings of the 21th USENIX Security Symposium (Usenix), 2012.
- [8] P. G. Spirakis, V. Vlachos, V. Karakoidas, D. Liappis, D. Kalaitzis, E. Valeontis, S. Kollias, and **G. Argyros**. “Blueprints for a Large-Scale Early Warning System”, 14th Panhellenic Conference on Informatics (PCI) 2010.

Journal Publications

- [9] **G. Argyros**, T. Petsios, S. Sivakorn, A. D. Keromytis and J. Polakis. “Evaluating the Privacy Guarantees of Location Proximity Services”, In ACM Transactions on Privacy and Security (TOPS), Volume 19.

Presentations

- [10] **G. Argyros**, I. Stais. “Another Brick Off the Wall: Deconstructing Web Application Firewalls Using Automata Learning”, Black Hat Briefings Europe, 2016.
- [11] **G. Argyros**, A. Kiayias. “PRNG: Pwning Random Number Generators (in PHP applications)”, Black Hat Briefings USA, 2012.