Savvas P. Savvides

March 20, 2020

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Research Interests

My research interests span the areas of information security, distributed systems and cloud computing with an emphasis on secure and efficient distributed computations. My most recent projects revolve around devising efficient Partially Homomorphic Encryption (PHE) schemes and using a combination of PHE and Trusted Execution Environments, to enable efficient privacy-preserving data analytics in untrusted clouds.

Education

Ph.D. in Computer Science, Purdue University, West Lafayette, IN, USA — 08/2020 (expected)
Thesis: *Practical Confidentiality-Preserving Analytics in Untrusted Clouds*
Advisor: Patrick Eugster GPA:*3.5/4*

M.S. in Computer Science, New York University, New York City, NY, USA — 06/2013
Thesis: *Analyzing System Call API behavior on different POSIX platforms*
Advisor: Justin Cappos GPA:*3.9/4*

B.S. in Computer Science, University of Manchester, Manchester, UK — 06/2011
Advisor: Howard Barringer GPA:*First Class Honors*

Positions

Software Engineer Intern — 08/2019 - 12/2019
Oasis Labs, San Francisco, CA, USA

Security Research Engineer Intern — 05/2018 - 08/2018
Fortanix, Mountain View, CA, USA

Research Summer Intern — 06/2015 - 09/2015
IBM T J Watson Research Center, New York, USA

Graduate Teaching Assistant, CS180, CS252 — Fall'13, Fall'14, Fall'18
Purdue University, West Lafayette, IN, USA

Graduate Teaching Assistant, CSUA.002 — Spring'12, Fall'12
New York University, New York City, NY, USA

Awards, Fellowships, and Honors

Oasis Labs Fellowship — 2019
Oasis Labs

AWS Cloud Credits Award for Research — 2017 - 2018
Amazon

A. G. Leventis Scholarship — 2013 - 2014
A. G. Leventis Foundation

24 Hours of Good, New York Hackathon, first place — 2012
Google

Fulbright Scholarship 2011 - 2013
Fulbright - Institute of International Education

T.I.P. Grant 2011 - 2013
Graduate School of Arts and Science, New York University

Kilburn Final Year Performance Award 2011
University of Manchester

Kilburn Scholarship 2008 - 2011
University of Manchester

Cyprus State Scholarship 2008 - 2011
Republic of Cyprus

14th National Olympiad in Informatics, fourth place 2006
Cyprus Computer Society

Publications

Conference Articles

[C6] S. Savvides, D. Khandelwal, and P. Eugster. Efficient Confidentiality-Preserving Data Analytics over Symmetrically Encrypted Datasets. In *45th International Conference on Very Large Data Bases 2020 (VLDB'20)*, September 2020.

[C5] D. Ulybyshev, A. Alsalem, B. Bhargava, S. Savvides, G. Mani, and L. Ben-Othmane. Secure data communication in autonomous v2x systems. In *3rd IEEE International Congress on Internet of Things 2018 (ICIOT'18)*, July 2018.

[C4] S Savvides, J Stephen, M Ardekani, V Sundaram, P Eugster. Secure Data Types: A Simple Abstraction for Confidentiality-Preserving Data Analytics. In *8th ACM Symposium on Cloud Computing 2017 (SoCC'17)*, September 2017.

[C3] M Hauck, S Savvides, P Eugster, M Mezini and G Salvaneschi. SecureScala: Scala embedding of secure computations. In *7th ACM Scala Symposium 2016 (SCALA'16)*, Octomber 2016.

[C2] J. Stephen, S. Savvides, V. Sundaram, M. Ardekani and P. Eugster. STYX: Stream Processing with Trustworthy Cloud-based Execution. In *7th ACM Symposium on Cloud Computing 2016 (SoCC'16)*, September 2016.

[C1] J. Stephen, S. Savvides, R. Seidel and P. Eugster. Program Analysis for Secure Big Data Processing. In *29th IEEE/ACM International Conference on Automated Software Engineering (ASE'14)*, September 2014.

Journal Articles

[J1] S. Savvides, J. Stephen, and P. Eugster. C3PO: Cloud-based Confidentiality-preserving Continuous Query Processing. *ACM Transactions on Privacy and Security (TOPS) (under review).*

Magazine Articles

[M1] P. Eugster, S. Kumar, S. Savvides, J. Stephen. Ensuring Confidentiality in the Cloud of Things. *IEEE Pervasive Computing – Special Issue - IoT Communication*, Jan/Mar 2019

Workshop Articles

[W1] J. Stephen, S. Savvides, R. Seidel and P, Eugster. Practical Confidentiality Preserving Big Data Analysis. In *USENIX Workshop on Hot Topics in Cloud Computing 2014 (HotCloud'14)*, June 2014.

Service

External Reviewer

1. ACM/IFIP/USENIX International Middleware Conference (Middleware 2019)
2. International Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE 2019)
3. ACM/IFIP/USENIX International Middleware Conference (Middleware 2018)
4. ACM International Conference on Distributed and Event-based Systems (DEBS 2018)
5. International Conference on Principles of Distributed Systems (OPODIS 2017)
6. European Conference on Object-Oriented Programming (ECOOP 2017)
7. ACM/IEEE International Conference on Software Engineering (ICSE 2017)
8. ACM Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2016)
9. IEEE International Conference on Distributed Computing Systems (ICDCS 2014)

Departmental Service

1. Travel Grant Chair, Graduate Student Board, Purdue University (2017-2018)
2. Webmaster, Graduate Student Board, Purdue University (2017-2018)