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Stavros Papadopoulos

Curriculum Vitae

March 2019

CURRENT POSITION

Founder and CEO, TileDB, Inc. (since March 2017)
Cambridge, MA 02139, USA

EDUCATION

2005 – 2010 **Ph.D. in Computer Science.**

Department of Computer Science and Engineering
The Hong Kong University of Science and Technology
Hong Kong SAR, China

Thesis Title: “Authenticated Query Processing”

Advisor: Prof. Dimitris Papadias (<http://www.cse.ust.hk/~dimitris/>)

2000 – 2004 **B.Sc. in Computer Science**

Department of Informatics
Aristotle University of Thessaloniki
Thessaloniki, Greece

First Class Honors (GPA: 8.56/10.0, ranked 5th among 120 students)

RESEARCH INTERESTS

Big Data Array databases, massively parallel architectures

Security & Privacy Verifiable computation, private information retrieval, searchable encryption, differential privacy

Other Location-based services, geo-social networks, high-dimensional indexing, XML keyword search

PUBLICATION LIST

- Journal Articles
- [1] G. Kellaris, S. Papadopoulos, D. Papadias, “Engineering Methods for Differentially Private Histograms: Efficiency Beyond Utility”, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 31(2): 315-328, 2019.
 - [2] I. Demertzis, S. Papadopoulos, O. Papapetrou, A. Deligiannakis, M. N. Garofalakis, C. Papanthou, “Practical Private Range Search in Depth”, *ACM Transactions on Database Systems (TODS)*, 43(1): 2:1-2:52, 2018
 - [3] S. Papadopoulos, G. Cormode, A. Deligiannakis, M. Garofalakis, “Lightweight Query Authentication on Streams”, *ACM Transactions on Database Systems (TODS)*, 39(4):30:1–30:45, 2014. **Special Issue on Best Papers of SIGMOD 2013**
 - [4] S. Papadopoulos, A. Kiayias, D. Papadias, “Exact in-network aggregation with integrity and confidentiality”, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 24(10): 1760-1773, 2012. **Special Issue on Best Papers of ICDE 2011**
 - [5] S. Papadopoulos, S. Bakiras, D. Papadias, “pCloud: A distributed system for practical PIR”, *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 9(1):115-127, 2012.
 - [6] S. Papadopoulos, L. Wang, Y. Yang, D. Papadias, P. Karras, “Authenticated multi-step nearest neighbor search”, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 23(5):641-654, 2011.
 - [7] S. Papadopoulos, Y. Yang, D. Papadias, “Continuous authentication on relational streams”, *The VLDB Journal (VLDBJ)*, 19(2):161-180, 2010.
 - [8] Y. Yang, S. Papadopoulos, D. Papadias, G. Kollios, “Authenticated indexing for outsourced spatial databases”, *The VLDB Journal (VLDBJ)*, 18(3):631-648, 2009.
- Conference Papers
- [1] F. Baldimtsi, D. Papadopoulos, S. Papadopoulos, A. Scafuro, N. Triandopoulos, “Server-Aided Secure Computation with Off-line Parties”, in *ESORICS*, 2017.
 - [2] S. Papadopoulos, K. Datta, S. Madden, T. Mattson, “The TileDB Array Data Storage Manager”, in Proc. of the *International Conference on Very Large Data Bases (VLDB)*, 2017.
 - [3] I. Demertzis, S. Papadopoulos, O. Papapetrou, A. Deligiannakis, M. Garofalakis, “Practical Private Range Search Revisited”, in Proc. of the *ACM International Conference on Management of Data (SIGMOD)*, 2016.
 - [4] D. Papadopoulos, S. Papadopoulos, N. Triandopoulos, “Taking Authenticated Range Queries to Arbitrary Dimensions”, in Proc. of the *ACM Conference on Computer and Communications Security (CCS)*, 2014.
 - [5] G. Kellaris, S. Papadopoulos, X. Xiao, D. Papadias, “Differentially private event sequences over infinite streams”, in Proc. of the *International Conference on Very Large Data Bases (VLDB)*, 2014.
 - [6] A. Kiayias, S. Papadopoulos, N. Triandopoulos, T. Zacharias, “Delegatable pseudorandom functions and applications”, in Proc. of the *ACM Conference on Computer and Communications Security (CCS)*, 2013.
 - [7] S. Papadopoulos, A. Deligiannakis, G. Cormode, M. Garofalakis, “Lightweight authentication of linear algebraic queries on data streams”, in Proc. of the *ACM International Conference on Management of Data (SIGMOD)*, 2013.

- [8] N. Armenatzoglou, S. Papadopoulos, D. Papadias, "A general framework for geo-social query processing", in Proc. of the *International Conference on Very Large Data Bases (VLDB)*, 2013.
- [9] G. Kellaris, S. Papadopoulos, "Practical differential privacy via grouping and smoothing", in Proc. of the *International Conference on Very Large Data Bases (VLDB)*, 2013.
- [10] Y. Tao, S. Papadopoulos, C. Sheng, K. Stefanidis, "Nearest keyword search in XML documents", in Proc. of the *ACM International Conference on Management of Data (SIGMOD)*, 2011.
- [11] S. Papadopoulos, A. Kiayias, D. Papadias, "Secure and efficient in-network processing of exact SUM queries", in Proc. of the *IEEE International Conference on Data Engineering (ICDE)*, 2011.
- [12] S. Papadopoulos, S. Bakiras, D. Papadias, "Nearest neighbor search with strong location privacy", in Proc. of the *International Conference on Very Large Data Bases (VLDB)*, 2010.
- [13] Y. Yang, D. Papadias, S. Papadopoulos, P. Kalnis, "Authenticated join processing in outsourced databases", in Proc. of the *ACM International Conference on Management of Data (SIGMOD)*, 2009.
- [14] D. Sacharidis, S. Papadopoulos, D. Papadias, "Topologically sorted skylines for partially ordered domains", in Proc. of the *IEEE International Conference on Data Engineering (ICDE)*, 2009.
- [15] S. Papadopoulos, D. Papadias, W. Cheng, K-L. Tan, "Separating authentication from query execution in outsourced databases", in Proc. of the *IEEE International Conference on Data Engineering (ICDE)*, 2009. (short paper)
- [16] S. Papadopoulos, Y. Yang, S. Bakiras, D. Papadias, "Continuous spatial authentication", in Proc. of the *International Symposium on Spatial and Temporal Databases (SSTD)*, 2009.
- [17] Y. Yang, S. Papadopoulos, D. Papadias, G. Kollios, "Spatial outsourcing for location-based services", in Proc. of the *IEEE International Conference on Data Engineering (ICDE)*, 2008.
- [18] S. Papadopoulos, Y. Yang, D. Papadias, "CADS: Continuous authentication on data streams", in Proc. of the *International Conference on Very Large Data Bases (VLDB)*, 2007.
- [19] S. Papadopoulos, D. Sacharidis, K. Mouratidis, "Continuous medoid queries over moving objects", in Proc. of the *Intern. Symposium on Spatial and Temporal Databases (SSTD)*, 2007.

PREVIOUS WORK EXPERIENCE

Feb. 2014 – **Senior Research Scientist, Intel Labs**

Feb. 2017 Intel Science and Technology Center for Big Data
MIT CSAIL
Cambridge, MA 02139, USA

Sept. 2011 – **Visiting Assistant Professor**

January 2014 Department of Computer Science and Engineering
The Hong Kong University of Science and Technology
Hong Kong SAR, China

April 2010 – **Post-doctoral Researcher**

August 2011 Department of Computer Science and Engineering
The Chinese University of Hong Kong
Hong Kong SAR, China

2006 – 2010 **Research Assistant**
Department of Computer Science and Engineering
The Hong Kong University of Science and Technology
Hong Kong SAR, China

TEACHING EXPERIENCE

At HKUST

<u>Fall 2013:</u>	COMP 2011:	Introduction to Object-oriented Programming
	COMP 4431:	Multimedia Computing
<u>Spring 2013:</u>	COMP 1022Q:	Introduction to Computing with Excel VBA (2 Sections)
	CSIT 5300:	Advanced Database Systems (2 Sections)
<u>Fall 2012:</u>	COMP 1004:	Programming Fundamentals and Methodology (2 Sections)
<u>Spring 2012:</u>	COMP 2711:	Discrete Mathematical Tools for Computer Science
	COMP 4431:	Multimedia Computing
<u>Fall 2011:</u>	COMP 1004:	Programming Fundamentals and Methodology
	COMP 4331:	Introduction to Data Mining

AWARDS

- 2016 **Intel Labs/SSR Division Recognition Award**
For “leadership and flawless execution to create the TileDB array storage manager”
- 2013 **Best Lecturer in the MSc in Information Technology program at HKUST**
- 2012 **Best Ten Lecturers at HKUST**

GRANTS

- 2013 **GRF617813**
Title: *Fundamental Tools for Lightweight Data Stream Authentication*
Amount funded: HK\$645,500
- 2012 **DAG12EG04**
Title: *Searchable Symmetric Re-Encryption*
Amount funded: HK\$189,080
- DAG12EG06-07**
Title: *Private Proximity Detection in Geo-Social Networks: Models and Efficient Constructions*
Amount funded: HK\$50,700

PROFESSIONAL SERVICE

Journal Referee ACM Transactions on Database Systems (**TODS**)
ACM Transactions on Sensor Networks (**TOSN**)
The VLDB Journal (**VLDBJ**)
IEEE Transactions on Knowledge and Data Engineering (**TKDE**)
IEEE Transactions on Dependable and Secure Computing (**TDSC**)
IEEE Transactions on Services Computing (**TSC**)
IEEE Transactions on Mobile Computing (**TMC**)
Information Systems (**IS**)
Journal of Systems Software (**JSS**)
Journal of Computer Science and Technology (**JCST**)
GeoInformatica (**GeoInformatica**)
IET Information Security

Confer. Organiz. **Proceedings Chair**
SIGMOD 2013

Senior PC
Member
(Conferences) **DASFAA** 2014

PC Member
(Conferences) **SIGMOD** 2017, 2016, 2013
VLDB 2017, 2011
ICDE 2017, 2016, 2015
CIKM 2016, 2014
SoCC 2016
SSTD 2011

PC Member
(Workshops) **KEYS** 2012
MobiDE 2013, 2012, 2011
CloudDB 2013
BD3 2013
PrivDB 2013
IEEE BigData 2016