Serafeim (Makis) Papadias

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👤 Profile

PhD in Computer Science with expertise in dynamic graph analytics and streaming algorithms, specializing in community detection and scalable graph mining. Experienced educator with a proven track record of teaching database systems, programming, and data science courses at leading institutions (TU Berlin, HKUST). Successfully supervised 11 student theses and published research in top venues (VLDB, ICDE). Skilled in developing novel, efficient algorithms for processing large-scale dynamic graphs while maintaining a strong commitment to student-centered learning. Seeking to combine research expertise in graph algorithm optimization with passionate teaching to inspire the next generation of computer scientists.

🎓 Education

06/2019 – 09/2024 Berlin, Germany	**Computer Science | Doctor of Philosophy (Ph.D.)** **Technical University of Berlin** Thesis: Mining Highly Dynamic Graphs Advisor: Prof. Volker Markl Grade: Magna Cum Laude
02/2016 – 09/2018 Hong Kong, Hong Kong	**Computer Science | Master of Philosophy (M.Phil)** **Hong Kong University of Science & Technology** Thesis: Massively Parallel Output-optimal Streaming Joins Advisor: Prof. Ke Yi GPA : 3.817/4.00
10/2009 – 09/2015 Athens, Greece	**Electrical and Computer Engineering | Diploma (M.Eng)** **National Technical University of Athens** Thesis: Trajectory-aware Load Adaption in GeoStreaming Advisor: Kostas Patroumpas Major: Computer Science, Minor: Mathematics GPA: 8.73/10 (top 7%)

⚗ Skills

– COMPUTER SKILLS

C++	Java	Julia	Python
PROFESSIONAL	**PROFESSIONAL**	**LIMITED**	**PROFESSIONAL**

Apache Spark & Flink	PostgreSQL	OpenMP	LaTeX
LIMITED	**PROFESSIONAL**	**LIMITED**	**PROFESSIONAL**

– LANGUAGES

Greek (Native)	English (Professional)	Spanish (Elementary)
NATIVE	**FULL**	**LIMITED**

💼 Work Experience

06/2019 – 09/2024 Berlin, Germany	**Research Associate & Teaching Fellow** **Technical University of Berlin** Spearheaded research initiatives on streaming graph data management under the supervision of Prof. Volker Markl Managed teaching responsibilities across various courses, including: - DBPRA: Database Practicum (Spring 2021, 2022) - DBSEM: DB Systems Seminar (Spring 2021-2024, Fall 2023) - DW: Data Warehouses (Fall 2020-2022) - BDAPRO: Big Data Analytics Project (Mentor, Fall 2020) - ROC: Research Oriented Course (Fall 2019) Oversaw and guided 11 student theses (7 Bachelor's, 4 Master's) focusing on dynamic graph analytics, community detection, and database systems.
02/2016 – 09/2018 Clear Water Bay, Hong Kong	**Research Assistant & Teaching Fellow** **Hong Kong University of Science & Technology** Conducted extensive research on worst-case optimal streaming join algorithms under the guidance of Prof. Ke Yi Assisted in teaching core computer science courses as a Teaching Assistant for: - COMP2011: Introduction to Object-Oriented Programming (Fall 2017, Spring 2018) - COMP3311: Database Management Systems (Spring 2017)
10/2015 – 12/2015 Clear Water Bay, Hong Kong	**Research Assistant (intern)** **Hong Kong University of Science & Technology** Conducted research with Prof. Dimitris Papadias

📖 Publications

05/2024	**Overlapping Community Detection on Dynamic Graphs** **Under Submission** Serafeim Papadias, Grigorios Loukides, Zoi Kaoudi, and Volker Markl Code: https://github.com/spapadias/communis
09/2023	**Counting Butterflies in Fully Dynamic Bipartite Graph Streams** **ICDE 2024** Serafeim Papadias, Zoi Kaoudi, Varun Pandey, Jorg Quiane, Volker Markl Code: https://github.com/spapadias/abacus
07/2022	**Space-Efficient Random Walks on Streaming Graphs** **VLDB 2023** Serafeim Papadias, Zoi Kaoudi, Jorge Quiane, Volker Markl Code: https://github.com/spapadias/wharf
08/2020	**In-Place Updates in Tree-Encoded Bitmaps** **SSDBM 2022** Marcellus Prama Saputra, Eleni Tzirita Zacharatou, Serafeim Papadias, Volker Markl Code; https://github.com/marcellus-saputra/Thuja
08/2019	**Tunable Streaming Graph Embeddings at Scale** **PhD@VLDB 2020** Serafeim Papadias YouTube: http://tiny.cc/vfqszz

📖 Publications

03/2019	**Trajectory-aware Load Adaption for Continuous Traffic Analytics** **SSTD 2019** Kostas Patroumpas, Serafeim Papadias Code: https://github.com/spapadias/rienNeVaPlus
03/2019	**Streaming HyperCube: A Massively Parallel Stream Join Algorithm** **EDBT 2019** Yuan Qiu, Serafeim Papadias, Ke Yi

🏆 Awards

02/2016	**HKUST Postgraduate Studentship** **Hong Kong University of Science & Technology** Postgraduate scholarship from Hong Kong University of Science and Technology
11/2009	**Great Moment for Education** **Eurobank** Eurobank Award for the best student of each high school
03/2008	**Distinction in Panhellenic Mathematics Society's Contest** **Panhellenic Mathematics Society**

☑ Certificates

10/2024	**Learning Julia** **LinkedIn** https://tinyurl.com/muncy5nk
08/2015	**Big Data XSeries** **UC BerkeleyX at edX** Link1: https://shorturl.at/dhuZY Link2: https://shorturl.at/PcJ0e

★ Strengths

`Problem-Solving` `Analytical Thinking` `Algorithms` `Graphs` `Mentorship` `Thesis Supervision`
`Technical Writing`