



Antonios Katsarakis

Computer Science Researcher



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About me

I particularly enjoy research and engineering that involves:

- Software-Hardware co-design
- Idea cross-pollination: databases, systems, networking, architecture
- Theory + Practise: Revisit first principles to build next gen. systems

Notable affairs

- Reviewer: JPDC, TPDS, TACO, ATC'19, MICRO'22, Middleware'23, SSS'24, SPAA'24, SOSP'24, ICDE'24
- Student Mentor: PhD, MSc, BSc
- Travel Grants: ASPLOS'20, PPOPP'20
- Patents: 16/282,183 , 18/569,045
- ACM Sigops Blog Posts:
Thinking outside the box: My PhD Odyssey
From Single-Server Architecture to Distributed Datastores (Part 1 and Part 2)
- ACM Sigarch Blog Post:
KV-stores from the Lens of Shared Memory
- Certified Optimize Life Coach
- Personal Development Aficionado:
Read 400+ books since 2018

Selected for

- AI Summer School'17 – Microsoft Research
- ARM Research Summit 2018
- SATIS'18 Summer School – ACM SIGOPS
- UK System Research Challenges Workshop – 2018 & 2019



Experience

May 2023	Principal Researcher – Next-generation databases	Huawei Research
Sep 2021	Senior Researcher	
Sep'20-Feb'21	Research Intern Hardware-software B+tree with Transactions & Mvcc.	Microsoft Research Mentor: <i>A. Dragojevic</i>
May'19-Sep'20	Part-time Contractor – Systems and Networking Transactions and reliability for Virtual Network Functions (e.g., cellular).	Microsoft Research
Sep'17-Dec'19	Teaching Assistant, Demonstrator, and Marker In Extreme Computing, Introduction to Systems, and Computer Architecture	Uni. of Edinburgh
Sep-Dec'18	Research Intern Fast, fault-tolerant and consistent KVS over DPDK.	Microsoft Research Mentor: <i>B. Radunovic</i>
Jan-Jul'16	Research Assistant High-performance stock trading system for the Athens Stock Exchange.	FORTH
Sep-Dec'15	Undergraduate Teaching Assistant Course: Introduction to Computer Science	Uni. of Crete
Jun-Aug'15	Research Intern – Big Data Analytics Acceleration Optimized data accesses in Big Data systems (i.e., Hadoop, Spark, HBase)	ICS-FORTH
Jun-Dec'14	Undergraduate Research Assistant Web interface for cluster monitoring using Nodejs, jQuery and HTML5.	FORTH



Education

2017-2021	Ph.D. in Pervasive Parallelism [R. Needham Award] <i>Invalidation-Based Protocols for Replicated Datastores</i> Advisor: <i>Boris Grot</i> Co-advisors: <i>Vijay Nagarajan, Aleksandar Dragojevic</i>	Uni. of Edinburgh
2016-2017	M.Res. in Pervasive Parallelism [Distinction] <i>Symmetric Caching: Exploiting Skew for High Performance Data Serving</i>	Uni. of Edinburgh
2012-2016	B.Sc. in Computer Science [top 1%] <i>Multi-threading for Stock Exchange Systems</i>	Uni. of Crete Advisor: <i>A. Bilas</i>



Selected Publications

HPDC '24	DLHT: Non-blocking Resizable Hashtable with Fast Deletes and Memory-awareness Katsarakis, Gavrielatos, Ntarmos
PaPoC '24	Unanimous 2PC: Fault-tolerant Distributed Transactions Can be Fast and Simple Jensen, Howard, Mortier, A. Katsarakis
IEEE TC '23	Honeycomb: Ordered Key-value Store Acceleration on an FPGA-based SmartNIC Liu, Dragojevic, Flemming, Katsarakis, Korolija, Zablotchi, Ng, Kalia, Castro
EuroSys '21	Zeus: Locality-aware Distributed Transactions Katsarakis, Ma, Tan, Bainbridge, Balkwill, Zhang, Dragojevic, Grot, Radunovic
EuroSys '21	Odyssey: The Impact of Modern Hardware on Strongly-Consistent Replication Gavrielatos, Katsarakis, Nagarajan
PACT '21	Invalidate or Update? Revisiting Coherence for Tomorrow's Caches Zhu, Shahab, Katsarakis, Grot
ASPLOS '20	Hermes: A Fast, Fault-Tolerant and Linearizable Replication Protocol Katsarakis, Gavrielatos, Katebzadeh, Joshi, Dragojevic, Grot, Nagarajan
PPoPP '20	Kite: Efficient and Available Release Consistency for the Datacenter Gavrielatos, Katsarakis, Joshi, Grot, Nagarajan
EuroSys '18	Scale-Out ccNUMA: Exploiting Skew with Strongly Consistent Caching Katsarakis, Gavrielatos, Joshi, Oswald, Grot, Nagarajan



Honors & Awards

2023	Roger Needham PhD Award – Honorable Mention	Eurosys'23
2023	Future Star	Huawei
2022	Timely Award: Star of Edinburgh	Huawei
2021	Top Pick 2020 – Honorable Mention	IEEE Micro
2020	Best Paper Nominee	PPoPP
2017	Microsoft Research PhD Fellowship	Microsoft Research
2016	Pervasive Parallelism CDT Award	EPSRC
2016	Research Fellowship	FORTH
2016	High BSc. Graduation Rank - 2nd among all graduates	Uni. of Crete
2015,'14,'13	Undergraduate Scholarship " <i>Orfanoudakis</i> " – Top 3 in CS dep.	FORTH
2013	Undergraduate Scholarship " <i>Karidi</i> " – Highest marks	Uni. of Crete
2012	National Scholarship – High grades on Greek national exams	IKY