Alexandros Daglis

ScD, Computer Science
Associate Professor in Computer Science
University of Edinburgh / Georgia Institute of Technology

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Google scholar DBLP

Research Interests

Computer architecture, datacenter systems, memory systems, hardware-software co-design

Education

2012–2018 Doctor of Science degree in Computer Science
École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
Thesis: "Network-compute co-design for distributed in-memory computing"
Advisors: Prof. Babak Falsafi & Prof. Edouard Bugnion

2007–2012 Diploma in Electrical & Computer Engineering (5-year degree)
National Technical University of Athens (NTUA), Athens, Greece
Thesis: "A study of a dynamic placement policy in a NUCA cache"
Advisor: Prof. Nectarios Koziris

Employment

Jan. '26–present	Reader (Associate Professor), School of Informatics, University of Edinburgh
Aug. '25–present	Associate Professor, School of Computer Science, College of Computing, Georgia Institute of Technology
Aug. '20–present	Adjunct Professor, School of Electrical and Computer Engineering, College of Engineering, Georgia Institute of Technology
Jan. '19–Jul. '25	Assistant Professor, School of Computer Science, College of Computing, Georgia Institute of Technology
Sep. '12–Sep. '18	Research Assistant at EPFL, Lausanne, Switzerland Research on Datacenter Technologies and In-Memory Rack-scale Computing • Lead architect of the **Scale-Out NUMA** project.
Jan.–May '15	Systems Research Intern at HP Labs, Palo Alto, USA Software and hardware research for HP's *The Machine*

Awards & Honors

2025 *Graduate Student Champion* recognition by the Georgia Tech School of Computer Science Graduate Student Association

2025 ACM Senior Member

2024 IEEE Senior Member

2024	ASPLOS 2024 Distinguished Reviewer
2023	NSF CAREER Award
Fall 2023	Georgia Tech Student Recognition of Excellence in Teaching
2022	Georgia Tech College of Computing Outstanding Junior Faculty Teaching Award
Fall 2022	Georgia Tech Student Recognition of Excellence in Teaching
Fall 2021	Georgia Tech Student Recognition of Excellence in Teaching.
2019	Google Faculty Research Award
2019	ACM SIGARCH/IEEE CS TCCA Outstanding Dissertation – Honorable Mention for "contributions to network-centric server architecture for in-memory datacenter services"
2018	Nominated for an ACM Doctoral Dissertation Award by EPFL's School of Computer and Communication Sciences
2018	EPFL remarkable thesis distinction (awarded to top 8% of PhD dissertations)
2013–2014	Microsoft Research Fellowship
2012–2013	EPFL Computer Science Fellowship

Research Funding

2024 NSF award 2333049—*SHF: Small: Redesigning the Memory System in the Era of CXL*

2023 NSF CAREER—*Architecting Datacenters for Optimized Tail Latency at Scale*

2023 Samsung Semiconductor Inc—*Rethinking Server Memory Hierarchy in the Era of CXL*

2022 IARPA AGILE—*Scalable Locally-Centric Graph Analytics System*

2022 NSF award 2212098—*Collaborative Research: CNS Core: Medium: High-performance Network Stacks for the Edge*

2022 Intel Corporation—*TRIM: Architecting Systems for Terascale in-Memory Applications*

2021 Samsung Semiconductor Inc—*Disaggregated Memory Architectures for Scalable Distributed Training*

2020 NSF award 2006602—*SHF: CNS Core: Small: Server architecture optimizations for microsecond-scale RPCs*

2019 Google—*Leveraging SmartNICs for efficient handling of microsecond-scale RPCs*

Teaching

- Introduction to Graduate Studies in Computing (CS7001) — Fall '24, '25
- Systems and Networks (CS2200) — Spring '22, '23, '24, '25
- Advanced Computer Architecture (CS4290/6290/ECE4100/6100) — Fall '20, '21, '22, '23
- Topics on Datacenter Design (CS8803) — Fall '19, Spring '20, '21

Conference Publications

[1] Albert Cho, Jovan Stojkovic, Leonardo Piga, Abhishek Dhanotia, Sultan Mahmud Sajal, Gefei Zuo, Krishna Malladi, Devon Akers, Kalyan Subramanian, Shobhit Kanaujia, Alexandros Daglis. **Power Management for Large-Scale Heterogeneous AI Workloads.** In Proceedings of the *53rd IEEE/ACM International Symposium on Computer Architecture* (ISCA-53), Raleigh, USA, 2026. (Acceptance rate: 19%)

[2] Hamed Seyedroudbari, Alexandros Daglis. **Sassy: SmartNIC-Assisted Notification Delivery for μs-scale RDMA Workloads.** In Proceedings of the *32nd IEEE International Symposium on High-Performance Computer Architecture* (HPCA-32), Sydney, Australia, 2026. (Acceptance rate: 20%)

[3] Anish Saxena, Walter Wang, Alexandros Daglis. **Citadel: Rethinking Memory Allocation to Safeguard Against Inter-Domain Rowhammer Exploits.** In Proceedings of the *58th IEEE/ACM International Symposium on Microarchitecture* (MICRO), Seoul, Korea, 2025. (Acceptance rate: 21%)

[4] Albert Cho, Alexandros Daglis. **StarNUMA: Mitigating NUMA Challenges with Memory Pooling.** In Proceedings of the *57th IEEE/ACM International Symposium on Microarchitecture* (MICRO), Austin, TX, USA, 2024. (Acceptance rate: 23%)

[5] Albert Cho, Anish Saxena, Moinuddin Qureshi, Alexandros Daglis. **CXL-Centric Memory System for Scalable Servers.** In Proceedings of the *International Conference for High Performance Computing* (SC'24), Atlanta, GA, USA, 2024. (Acceptance rate: 23%)

[6] Anirudh Jain, Divya Kiran Kadiyala, Alexandros Daglis. **Safety Hints for HTM Capacity Abort Mitigation.** In Proceedings of the *29th IEEE International Symposium on High-Performance Computer Architecture* (HPCA-29), Montreal, Canada, 2023. (Acceptance rate: 25%)

[7] Hamed Seyedroudbari, Srikar Vanavasam, Alexandros Daglis. **Turbo: SmartNIC-enabled Dynamic Load Balancing of μs-scale RPCs.** In Proceedings of the *29th IEEE International Symposium on High-Performance Computer Architecture* (HPCA-29), Montreal, Canada, 2023. (Acceptance rate: 25%)

[8] Mark Sutherland, Babak Falsafi, Alexandros Daglis. **Cooperative Concurrency Control for Write-Intensive Key-Value Workloads.** In Proceedings of the *28th International Conference on Architectural Support for Programming Languages and Operating Systems* (ASPLOS-XXVIII), Vancouver, Canada, 2023. (Acceptance rate: 25%)

[9] Marina Vemmou, Albert Cho, Alexandros Daglis. **Patching up Network Data Leaks with Sweeper.** In Proceedings of the *55th IEEE/ACM International Symposium on Microarchitecture* (MICRO), Chicago, IL, USA, 2022. (Acceptance rate: 23%)

[10] Enrique Saurez, Harshit Gupta, Alexandros Daglis, Umakishore Ramachandran. **OneEdge: An Efficient Control Plane for Geo-Distributed Infrastructures.** In Proceedings of the *ACM Symposium on Cloud Computing* (SoCC), Seattle, WA, USA, 2021. (Acceptance rate: 32%)

[11] Marina Vemmou and Alexandros Daglis. **COSPlay: Leveraging Task-Level Parallelism for High-Throughput Synchronous Persistence.** In Proceedings of the *54th IEEE/ACM International Symposium on Microarchitecture* (MICRO), Worldwide Event, 2021. (Acceptance rate: 22%)

[12] Arash Pourhabibi, Mark Sutherland, Alexandros Daglis, Babak Falsafi. **Cerebros: Evading the RPC Tax in Datacenters.** In Proceedings of the *54th IEEE/ACM International Symposium on Microarchitecture* (MICRO), Worldwide Event, 2021. (Acceptance rate: 22%)

[13] Mark Sutherland, Siddharth Gupta, Babak Falsafi, Virendra Marathe, Dionisios Pnevmatikatos, Alexandros Daglis. **The NeBuLa RPC-Optimized Architecture.** In Proceedings of the *47th International Symposium on Computer Architecture* (ISCA), Worldwide Event, 2020. (Acceptance rate: 18%)

[14] Siddharth Gupta, Alexandros Daglis, Babak Falsafi. **Distributed Logless Atomic Durability with Persistent Memory.** In Proceedings of the *52nd International Symposium on Microarchitecture* (MICRO), Columbus, OH, USA, 2019. (Acceptance rate: 23%)

[15] Alexandros Daglis, Mark Sutherland, Babak Falsafi. **RPCValet: NI-Driven Tail-Aware Balancing of μs-scale RPCs.** In Proceedings of the *24th International Conference on Architectural Support for Programming Languages and Operating Systems* (ASPLOS-XXIV), Providence, RI, USA, 2019. (Acceptance rate: 21%)

[16] Dmitrii Ustiugov, Alexandros Daglis, Javier Picorel, Mark Sutherland, Edouard Bugnion, Babak Falsafi, Dionisios Pnevmatikatos. **Design Guidelines for High-Performance SCM Hierarchies.** In Proceedings of the *4th Annual International Symposium on Memory Systems* (MEMSYS), Washington DC, USA, 2018.

[17] Mario Drumond, Alexandros Daglis, Nooshin Mirzadeh, Dmitrii Ustiugov, Javier Picorel, Babak Falsafi, Boris Grot, Dionisios Pnevmatikatos. **The Mondrian Data Engine.** In Proceedings of the *44th International Symposium on Computer Architecture* (ISCA), Toronto, ON, Canada, 2017. (Acceptance rate: 17%)

[18] Stanko Novakovic, Alexandros Daglis, Edouard Bugnion, Babak Falsafi, Boris Grot. **The Case for RackOut: Scalable Data Serving Using Rack-Scale Systems.** In Proceedings of the *ACM Symposium on Cloud Computing* (SoCC), Santa Clara, CA, USA, 2016. (Acceptance rate: 25%)

[19] Alexandros Daglis, Dmitrii Ustiugov, Stanko Novakovic, Edouard Bugnion, Babak Falsafi, Boris Grot. **SABRes: Atomic Object Reads for In-Memory Rack-Scale Computing.** In Proceedings of the *49th International Symposium on Microarchitecture* (MICRO), Taipei, Taiwan, 2016. (Acceptance rate: 21%)

[20] Stanko Novakovic, Alexandros Daglis, Edouard Bugnion, Babak Falsafi, Boris Grot. **An Analysis of Load Imbalance in Scale-out Data Serving.** *ACM SIGMETRICS* (Short paper), Antibes Juan-Les-Pins, France, 2016.

[21] Alexandros Daglis, Stanko Novakovic, Edouard Bugnion, Babak Falsafi, Boris Grot. **Manycore Network Interfaces for In-Memory Rack-Scale Computing.** In Proceedings of the *42nd International Symposium on Computer Architecture* (ISCA), Portland, OR, USA, 2015. (Acceptance rate: 19%)

[22] Stanko Novakovic, Alexandros Daglis, Edouard Bugnion, Babak Falsafi, Boris Grot. **Scale-Out NUMA.** In Proceedings of the *19th International Conference on Architectural Support for Programming Languages and Operating Systems* (ASPLOS-XIX), Salt Lake City, UT, USA, 2014. (Acceptance rate: 23%)

Journal Publications

[23] Mohammad Alian, Jongmin Shin, Ki-Dong Kang, Ren Wang, Alexandros Daglis, Daehoon Kim, Nam Sung Kim. **IDIO: Orchestrating Inbound Network Data on Server Processors.** *IEEE Computer Architecture Letters*, 2020.

[24] Phillip Stanley-Marbell, Armin Alaghi, Michael Carbin, Eva Darulova, Lara Dolecek, Andreas Gerstlauer, Ghayoor Gillani, Djordje Jevdjic, Thierry Moreau, Mattia Cacciotti, Alexandros Daglis, Natalie Enright Jerger, Babak Falsafi, Sasa Misailovic, Adrian Sampson, Damien Zufferey. **Exploiting Errors for Efficiency.** *ACM Computing Surveys*, 2020.

[25] Stanko Novakovic, Alexandros Daglis, Dmitrii Ustiugov, Edouard Bugnion, Babak Falsafi, Boris Grot. **Mitigating Load Imbalance in Distributed Data Serving with Rack-Scale Memory Pooling.** *ACM Transactions on Computer Systems (TOCS)*, 2019.

[26] Mario Drumond, Alexandros Daglis, Nooshin Mirzadeh, Dmitrii Ustiugov, Javier Picorel, Babak Falsafi, Boris Grot, Dionisios Pnevmatikatos. **Algorithm/Architecture Co-Design for Near-Memory Processing.** *ACM SIGOPS Operating Systems Review*, 2018.

Workshop Publications, Articles & ArXiv publications

[27] Divya Kiran Kadiyala, Alexandros Daglis. **Pushing the Memory Bandwidth Wall with CXL-enabled Idle I/O Bandwidth Harvesting.** *https://arxiv.org/abs/2511.12349*, November 2025.

[28] Peidi Song, Alexandros Daglis, Michael Filler, Ahmed Saeed. **Algorithmic Tradeoff Exploration for Component Placement and Wire Routing in Nanomodular Electronics.** *https://arxiv.org/abs/2510.03126*, October 2025.

[29] Tyler Landle, Jordan Rapp, Dean Blank, Chandramouli Amarnath, Abhijit Chatterjee, Alexandros Daglis, Umakishore Ramachandran. **eCAV: An Edge-Assisted Evaluation Platform for Connected Autonomous Vehicles.** *https://arxiv.org/abs/2409.15463v1*, June 2025.

[30] Anish Saxena, Walter Wang, Alexandros Daglis. **Preventing Rowhammer Exploits via Low-Cost Domain-Aware Memory Allocation.** *https://arxiv.org/abs/2409.15463v1*, September 2024.

[31] Prachatos Mitra, Alexandros Daglis. **Filtering Wasteful Vertex Visits in Breadth-First Search.** In Proceedings of the *SC '23 Workshops of The International Conference on High Performance Computing, Network, Storage, and Analysis (SC-W)*, 2023.

[32] Albert Cho, Anish Saxena, Moinuddin Qureshi, Alexandros Daglis. **A Case for CXL-Centric Server Processors.** *https://arxiv.org/abs/2305.05033*, May 2023.

[33] Taekyung Heo, Saeed Rashidi, Changhai Man, Divya Kiran Kadiyala, William Won, Sudarshan Srinivasan, Midhilesh Elavazhagan, Madhu Kumar, Alexandros Daglis, Tushar Krishna. **Exploring Memory Expansion Designs for Training Mixture-of-Experts Models.** *Workshop on Hot Topics in System Infrastructure (HotInfra)*, 2023.

[34] Anirudh Sarma, Hamed Seyedroudbari, Harshit Gupta, Umakishore Ramachandran, Alexandros Daglis. **NFSlicer: Data Movement Optimization for Shallow Network Functions.** *https://arxiv.org/abs/2203.02585*, March 2022.

[35] Joy Arulraj, Abhijit Chatterjee, Alexandros Daglis, Ashutosh Dhekne, and Umakishore Ramachandran. **eCloud: A Vision for the Evolution of the Edge-Cloud Continuum.** *IEEE Computer, Special Issue on Computing for Autonomy: Latency, Power, Resilience*, May 2021.

[36] Siddharth Gupta, Alexandros Daglis, Babak Falsafi. **Unleashing the Full Potential of Persistent Memory with Logless Atomic Durability.** *11th Annual Non-Volatile Memories Workshop*, 2020.

Invited Talks

Scaling Disaggregated Memory Performance Urges Advanced Memory Management Services
- Dagstuhl Seminar 26222: Foundations of Disaggregated Memory and Heterogeneous Architectures — May 2026

Breaking the Server Mold: From Monolithic Nodes to Intelligent Disaggregated Fabrics
- Emerging AI SuperPod and Computing Network, UCL Workshop — May 2026

Decentralizing the Brain: From CPU-Centric Servers to Intelligent Composable Resources
- Huawei-University of Edinburgh Joint Lab Workshop, Keynote session — Apr. 2026
- Keynote at the 5th Workshop on Heterogeneous Composable and Disaggregated Systems (HCDS), colocated with ASPLOS — Mar. 2026

Navigating the Data Deluge: CXL and the Future of Server Design
- The SCOttish Networking Event (SCONE) — Jan. 2026

Novel Server Architectures for the Modern Datacenter
- Imperial College London — Apr. 2025
- University of Edinburgh — Mar. 2025

Leveraging Serial Interfaces to Scale the Memory Wall in Server Architectures
- Georgia Tech Center for Research into Novel Computing Hierarchies (CRNCH) Summit — Feb. 2025
- University of Texas at Austin — Nov. 2024
- University of Pennsylvania — Sep. 2024

CXL-based Memory Systems for Servers
- ECE seminar at the National Technical University of Athens (NTUA) — Jul. 2024
- NTU-Imperial Cloud Systems Workshop — Jun. 2024

A Case for CXL-Centric Server Processors
- Microsoft Azure Hardware Architecture AHA Learning Series — Oct. 2023

Architecting Systems for Terascale in-Memory Applications
- Intel Center for Transformative Server Architectures (TSA) Annual Workshop — Sep. 2023

Rethinking the Network-Compute Interface in the era of extreme software decomposition
- University of Washington — Mar. 2023

A decade of Scale-Out NUMA: Impact on my PhD, early career, and research community
- Babak Falsafi's 25-year Career Anniversary Workshop — Feb. 2023

Efficient Large-Scale Architectures for Distributed Training Using Memory Expansion Techniques
- Samsung Memory Solutions Lab — May 2022

Optimizing the "Last Mile" with Network-Compute Co-Design
- Georgia Tech Center for Research into Novel Computing Hierarchies (CRNCH) Summit — Jan. 2021

Network/Architecture CoDesign
- *Happy Hour with Architects* online series, hosted by Samira Khan — May 2020

RPCValet: NI-Driven Tail-Aware Balancing of μs-scale RPCs
- 24th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS-XXIV), Providence, RI, USA (conference presentation) — Apr. 2019

Network-Centric Computing for Online Services
- CS seminar at Stony Brook University — Sep. 2019
- ECE seminar at the National Technical University of Athens (NTUA) — Sep. 2018
- CS research seminar at Imperial College London — Apr. 2018
- CIS seminar at the University of Pennsylvania — Mar. 2018

- EE departmental seminar at Princeton University — Mar. 2018
- CS research seminar at Rutgers University — Mar. 2018
- CS research seminar at UCLA — Feb. 2018
- SCS seminar at Georgia Tech — Feb. 2018

SABRes: Atomic Object Reads for In-Memory Rack-Scale Computing

- 49th International Symposium on Microarchitecture (MICRO), Taipei, Taiwan (conference presentation) — Oct. 2016

Chip Design for In-Memory Rack-Scale Computing

- EcoCloud Annual Event, Lausanne, Switzerland — May 2016

Manycore Network Interfaces for In-Memory Rack-Scale Computing

- Computing Systems Research Day at the National Technical University of Athens (NTUA), Athens, Greece — Jan. 2016
- 42nd International Symposium in Computer Architecture (ISCA), Portland, USA (conference presentation) — Jun. 2015

Hybrid Coherence for "The Machine"

- HP Labs, Palo Alto, USA — May 2015

Professional Service

PC Member / Reviewer:

- **Conference Program Committee:** MICRO '26 (Area Chair), ASPLOS '27/'24/'23/'21, ISCA '26/'25/'24, ISCA '22 Industry Track, HPCA '26/'25/'22, USENIX ATC '21/'20, ISPASS '20, CLUSTER '19
- **Conference External Review Committee:** MICRO '24/'20, ISCA '23/'21/'20
- **Journals:** IEEE MICRO Top Picks '26, IEEE MICRO '24, CAL '25/'21/'20, IEEE Transactions on Computers '23/'18, TACO '24/'19
- **Workshops:** HCDS '26/'25, YArch '25/'24, HotInfra '23, YArch '22, WAX '19, WORD '19
- **Other:** MICRO Student Research Competition '23/'19

Organizational Roles:

- MICRO Publication Chair, 2026
- MICRO Workshops & Tutorials Co-Chair, 2025
- MICRO Artifact Evaluation Co-Chair, 2022
- ASPLOS-XXVII Travel Grants Chair, 2022
- Young Architect (YArch) Workshop co-organizer, 2021 (at ASPLOS-XXVI)
- Young Architect (YArch) Workshop co-organizer and PC chair, 2020 (at ASPLOS-XXV)
- Rising Stars in Computer Architecture (RISC-A) Workshop co-organizer, 2019

Research Proposal Evaluations:

- NSF proposal ad hoc reviewer, 2024
- Israel Science Foundation reviewer, 2023
- NSF proposal review panelist, 2019
- NASA reviewer, 2019

Institutional Service at Georgia Tech:

- Computer Architecture Area Coordinator — 2021 – 2025
- SCS Chair Search Committee member — Spring '25
- Elected School Advisory Committee member — 2022–2025
- PhD Visit Day Committee member (chair) — Spring '24/'25
- PhD Admissions Committee member (chair) — Fall '19/'20/'21

Other Service:

- Administrator for ConflictDB, a SIGARCH initiative for an online platform to consolidate Conflicts of Interest.

Mentoring

PhD	Peidi Song (w/ Ahmed Saeed)	2024-
	Prachatos Mitra	2023-
	Albert Cho	2021-2026*
	Marina Vemmou	2019-2026
	Divya Kadiyala	2019-2025
	Hamed Seyedroudbari	2019-2025
	Mark Sutherland (w/ Babak Falsafi)	2018–2022
		*Expected graduation
MS (thesis)	Shreyan Jabade	2024
MS (project)	Kunal Bhat	2025
	Himanshi Gupta	2025
	Suyash Dandekar	2025
	Ali Asgar	2024
	Nikhil Boopalam	2024
	Manish Dash	2024
	Anand Naik	2023–2025
	Peidi Song	2023–2024
	Prashant Ramnani	2023–2024
	Rachana Aithal	2023-2024
	Vivek Singh	2023-2024
	Dhruva Devasthale	2023
	Manish Manchali	2023
	Sibi Sudhakar	2023
	Jayant Tandon	2023
	Aditya Rohan	2022
	Balaji Ravikumar	2022
	Nagasayee Guduru	2022
	Harigovind Anil	2022
	Dhruva Barfiwala	2022
	Arvind Sivasankar	2022
	Sriyash Caculo	2021–2022
BS (thesis)	Srikar Vanavasam	2022–2023
BS (project)	Kevin Shan	2024–2025

Patents

[1] *StarNUMA: Mitigating NUMA Challenges with CXL-Enabled Memory Pooling* | Provisional US Patent 63/660,268, 2024
- With Albert Cho.

[2] *Atomic Object Reads for In-Memory Rack-Scale Computing* | US Patent 10,929,174, 2021
- With Boris Grot and Babak Falsafi.

[3] *Scale-Out Non-Uniform Memory Access* | US Patent 9,734,063, 2017
- With Stanko Novakovic, Boris Grot, Edouard Bugnion, and Babak Falsafi.
- Licensed by a major IT vendor in 2016.

Languages

Greek, English, German (limited working proficiency), French (elementary proficiency).