

# Jovan Stojkovic

## Curriculum Vitae

Computer Science Department  
University of Texas at Austin

### Research Interests

- Computer architecture and hardware-software co-design of datacenters.
- Cloud computing and emerging paradigms such as microservices and serverless computing.
- Power, energy, and thermal efficiency of cloud environments.

### Professional Appointments

- August 2026 – **University of Texas at Austin**, *Department of Computer Science*.  
Present Assistant Professor
- August 2025 – **Meta**, *AI and Systems Co-Design Group*.  
August 2026 Visiting Researcher

### Education

- 2020 – 2025 **University of Illinois at Urbana-Champaign**.  
PhD in Computer Science **Advisor:** Professor Josep Torrellas  
○ **Thesis:** *Chasing the "Tail at Scale": Toward Cloud-Native Architectures*  
**Awards:** *W. J. Poppelbaum Memorial Award (2025); Mavis Future Faculty Fellowship (2024); Kenichi Miura Award (2022)* **GPA:** 4.0/4
- 2016 – 2020 **School of Electrical Engineering, University of Belgrade, Serbia**.  
○ B.S. in Electrical and Computer Engineering  
**Awards:** *Best student in the Department (2017-2020)* **GPA:** 9.89/10

### Awards and Honors

- April 2025 **W. J. Poppelbaum Memorial Award - For Excellence in Computer Architecture**, *Department of Computer Science, University of Illinois at Urbana-Champaign*.
- March 2025 **Best Paper Award**, *IEEE International Symposium on High-Performance Computer Architecture (HPCA'25)*, Las Vegas, NV, USA.
- August 2024 **MICRO PhD Forum**, *Selected to present my PhD research at the PhD Forum, International Symposium on Microarchitecture (MICRO'24)*, Austin, TX, USA.
- May 2024 **Mavis Future Faculty Fellowship**, *Selected as one of the MF3 fellows for the 2024-2025 academic year, The Grainger College of Engineering, University of Illinois at Urbana-Champaign*.
- April 2024 **Young Researcher at the Heidelberg Laureate Forum (HLF)**, *Selected as one of the 30 young researchers in CS/mathematics worldwide invited to present their research at the HLF*.
- January 2024 **IEEE Micro Top Picks in Computer Architecture, Honorable Mention**, *Awarded to the most significant papers in computer architecture published in the previous year*.
- 2022-2024 **Invited Talks**, *Gave research seminars at industry (Uber, Microsoft, IBM, RedHat), academia (Cornell, University of Wisconsin-Madison, University of California-Riverside), Annual Meeting of the ACE Center for Evolvable Computing, and vHive community meetup*.

- October 2022 **Workshop on the Future of Computer Architectures (FOCA)**, *Selected to present my PhD research at IBM Research, Yorktown Heights, NY.*
- 2022-2024 **Student Travel Grants**, *ISCA '23, '24; HPCA '23; ASPLOS '22, '23; MICRO '22, '24.*
- April 2022 **Kenichi Miura Award - For Excellence in High Performance Computing**, *Department of Computer Science, University of Illinois at Urbana-Champaign.*
- April 2020 **Best Artifact Award**, *International Conference on Information Processing on Sensor Networks (IPSN '20)*, Sydney, Australia.
- 2017-2020 **Best Student of the Computer Engineering and Information Theory Department Award**, *School of Electrical Engineering, University of Belgrade.*

## Publications

- C1. **J. Stojkovic**, A. Farrell, Z. Gong, C. Hughes, J. Torrellas, "AccelFlow: Orchestrating an On-Package Ensemble of Fine Grained Accelerators for Microservice Workloads", *To Appear In Proceedings of the 32nd IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, February, 2026.
- C2. N. Iliakopoulou, **J. Stojkovic**, C. Alverti, T. Xu, H. Franke, J. Torrellas, "Chameleon: Adaptive Caching and Scheduling for Many-Adapter LLM Inference Environments", *In Proceedings of the 58th Annual IEEE/ACM International Symposium on Microarchitecture (MICRO)*, November, 2025.
- C3. L. Huang, A. Parayil, J. Zhang, X. Qin, C. Bansal, **J. Stojkovic**, P. Zardoshti, P. Misra, E. Cortez, R. Ghelman, Í. Goiri, S. Rajmohan, J. Kleewein, R. Fonseca, T. Zhu, R. Bianchini. "Workload Sage: Workload-Aware IaaS abstraction for Cloud Efficiency", *In Proceedings of the International Conference for High Performance Computing, Networking, Storage, and Analysis (SC)*, November, 2025.
- C4. S. Chai, J. Zhang, J. Kim, A. Wang, F. Chung, **J. Stojkovic**, W. Jia, D. Skarlatos, J. Torrellas, T. Xu. "EMT: An OS Framework for New Memory Translation Architectures", *In Proceedings of the 19th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, July, 2025.
- C5. **J. Stojkovic**, C. Liu, M. Shahbaz, J. Torrellas, "HardHarvest: Hardware-Supported Core Harvesting for Microservices", *In Proceedings of the 52nd International Symposium on Computer Architecture (ISCA)*, June, 2025.
- C6. **J. Stojkovic**, C. Zhang, I. Goiri, E. Choukse, H. Qiu, R. Fonseca, J. Torrellas, R. Bianchini, "TAPAS: Thermal- and Power-Aware Scheduling for LLM Inference in Cloud Platforms", *In Proceedings of the 30th ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April, 2025.
- C7. **J. Stojkovic**, C. Alverti, A. Andrade, N. Iliakopoulou, T. Xu, H. Franke, J. Torrellas, "Concord: Rethinking Distributed Coherence for Software Caches in Serverless Environments", *In Proceedings of the 31st IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, March, 2025.
- C8. **J. Stojkovic**, C. Zhang, I. Goiri, J. Torrellas, and E. Choukse, "DynamoLLM: Designing LLM Inference Clusters for Performance and Energy Efficiency", *In Proceedings of the 31st IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, March, 2025. – **Best Paper Award**
- C9. **J. Stojkovic**, E. Choukse, E. Saurez, I. Goiri, J. Torrellas, "Mosaic: Harnessing the Micro-architectural Resources of Servers in Serverless Environments", *In Proceedings of the 57th Annual IEEE/ACM International Symposium on Microarchitecture (MICRO)*, November, 2024.
- C10. **J. Stojkovic**, N. Iliakopoulou, T. Xu, H. Franke, J. Torrellas, "EcoFaaS: Rethinking the Design of Serverless Environments for Energy Efficiency", *In Proceedings of the 51st International Symposium on Computer Architecture (ISCA)*, June, 2024.
- C11. **J. Stojkovic**, P. Misra, I. Goiri, S. Whitlock, E. Choukse, M. Das, C. Bansal, J. Lee, H. Qiu, R. Zimmermann, S. Samal, B. Warrior, R. Bianchini, "SmartOClock: Workload- and Risk-Aware Overclocking in the Cloud", *In Proceedings of the 51st International Symposium on Computer Architecture (ISCA)*, June, 2024.

- C12. **J. Stojkovic**, C. Liu, M. Shahbaz, J. Torrellas, " $\mu$ Manycore: A Cloud-Native CPU for Tail at Scale", *In Proceedings of the 50th International Symposium on Computer Architecture (ISCA)*, **Selected as an IEEE Micro Top Picks Honorable Mention**, June, 2023.
- C13. **J. Stojkovic**, T. Xu, H. Franke, J. Torrellas, "MXFaaS: Rethinking Resource Sharing in Serverless Environments for Parallelism and Efficiency", *In Proceedings of the 50th International Symposium on Computer Architecture (ISCA)*, June, 2023.
- C14. **J. Stojkovic**, T. Xu, H. Franke, J. Torrellas, "SpecFaaS: Accelerating Function-as-a-Service Applications with Speculative Function Execution", *In Proceedings of the 29th IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, February, 2023.
- C15. **J. Stojkovic**, N. Mantri, D. Skarlatos, T. Xu, J. Torrellas, "Memory Efficient Hashed Page Tables", *In Proceedings of the 29th IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, February, 2023.
- C16. **J. Stojkovic**, D. Skarlatos, A. Kokolis, T. Xu, J. Torrellas, "Parallel Virtualized Memory Translation with Nested Elastic Cuckoo Page Tables", *In Proceedings of the 27th ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, March, 2022.
- C17. G. Lan, Z. Liu, Y. Zhang, T. Scargill, **J. Stojkovic**, C. Joe-Wong, M. Gorlatova, "Edge-assisted Collaborative Image Recognition for Mobile Augmented Reality", *ACM Transactions on Sensor Networks*, February, 2022.
- C18. Z. Liu, G. Lan, **J. Stojkovic**, Y. Zhang, C. Joe-Wong, M. Gorlatova, "CollabAR: Edge-assisted Collaborative Image Recognition for Mobile Augmented Reality," *In Proceedings of the International Conference on Information Processing on Sensor Networks (IPSN)*, April, 2020. – **Best Research Artifact Award**
- C19. **J. Stojkovic**, M. Misić, J. Protić, "Collaboration Network Analysis of Scientific Production at UB-SEE", *In 27th Telecommunications Forum (TELFOR)*, November 2019.

## Pre-prints

- A1. **J. Stojkovic**, C. Zhang, Í. Goiri, R. Bianchini, "Rearchitecting Datacenter Lifecycle for AI: A TCO-Driven Framework", *CoRR*, vol. *abs/2509.26534*, 2025

## Workshop Papers

- W1. **J. Stojkovic**, E. Choukse, C. Zhang, I. Goiri, J. Torrellas, "Towards Greener LLMs: Bringing Energy-Efficiency to the Forefront of LLM Inference", *In 9th Workshop on Energy Efficient Machine Learning and Cognitive Computing (EMC2 '24) with ASPLOS*, April 2024.
- W2. **J. Stojkovic**, T. Xu, H. Franke, J. Torrellas, "UniCache: The Next 700 Caches for Serverless Computing", *In 5th International Workshop on Cloud Intelligence/AIOps (AIOps '24) with ASPLOS*, April 2024.
- W3. N. Stojkovic, **J. Stojkovic**, "OasisRPC: Hiding the Overheads of RPCs in Microservice Environments", *In 6th Young Architect Workshop (YArch'24) with ASPLOS*, April 2024.
- W4. **J. Stojkovic**, C. Liu, M. Shahbaz, J. Torrellas, "Hardware Design for Core Harvesting in Microservice-Heavy Clouds", *In SRC TECHCON Conference*, September 2023.
- W5. **J. Stojkovic**, C. Liu, M. Shahbaz, J. Torrellas, "Hardware for Efficient and Secure Resource Harvesting in the Cloud", *In 5th Young Architect Workshop (YArch'23) with ASPLOS*, March 2023.
- W6. **J. Stojkovic**, T. Xu, H. Franke, J. Torrellas, "Super Scalar Clouds", *In 7th Workshop on the Future of Computing Architecture (FOCA'22)*, November 2022.
- W7. **J. Stojkovic**, J. Torrellas, "Nested Elastic Cuckoo Page Tables", *NSF Arch-1 Workshop*, March 2022.
- W8. **J. Stojkovic**, Z. Liu, G. Lan, C. Joe-Wong, M. Gorlatova, "Edge-assisted Collaborative Image Recognition for Augmented Reality," *In ACM Embedded Networked Sensor Systems (SenSys)*, November 2019.

## Patents

- P1. **J. Stojkovic**, H. Franke, "Serverless Computing with Latency Reduction", *US Patent App 18/152,341*, 2024.
- P2. **J. Stojkovic**, H. Franke, T.Xu, J. Torrellas, "Serverless Computing Using Resource Multiplexing", *US Patent App 18/049,125*, 2024.
- P3. **J. Stojkovic**, H. Franke, A. Buyuktosunoglu, "Power Management in Serverless Computing", *US Patent App. 18/206,283*, 2024.
- P4. **J. Stojkovic**, E. Choukse, C. Zhang, I. Goiri, J. Torrellas, "LLM Inference Clusters for Performance and Energy Efficiency", *Filed*, 2024.
- P5. **J. Stojkovic**, C. Zhang, I. Goiri, E. Choukse, H. Qiu, R. Fonseca, J. Torrellas, R. Bianchini, "Thermal- and Power-Aware Scheduling for LLM Inference in the Cloud", *Filed*, 2024.
- P6. P. Misra, S. Whitlock, E. Choukse, **J. Stojkovic**, I. Goiri, R. Bianchini, "Distributed Overclocking and Risk-Aware Overclocking Management", *Filed*, 2024

## Research Experience

- September – Present **Visiting Researcher**, *Manager: Abhishek Dhanotia and Shobhit Kanaujia*, Architecture and Microarchitecture for Datacenter Workloads.
- August 2020 – August 2025 **Research Assistant at University of Illinois at Urbana-Champaign**, *Advisor: Professor Josep Torrellas*, Rethinking Architecture and OS for Modern Virtualization Technologies.
- May – August 2024 **Intern, Azure System Research, Microsoft Research**, *Advisors: Dr Chaojie Zhang and Dr Esha Choukse*, Energy-Efficient High-Performance LLM Inference Server, Redmond, WA.
- May – August 2023 **Intern, System Innovations, Microsoft Research**, *Advisors: Dr Pulkit Misra and Dr Inigo Goiri*, Virtual Machine Overclocking in the Cloud, Redmond, WA.
- May – August 2022 **Intern, Hybrid Cloud, IBM Research**, *Advisor: Dr Hubertus Franke*, Efficient and Performant Serverless Computing, Thomas J. Watson Research Center, NY.
- May – July 2019 **Duke ECE REU Program**, *Advisor: Professor Maria Gorlatova*, Edge Computing Platforms for the IoT and Collaborative AR.
- 2018 – 2020 **School of Electrical Engineering, University of Belgrade**, *Advisor: Professor Marko Misis*, Social and Collaboration Networks Analysis.

## Mentoring Experience

- 2025-Present **Joshua Kim**, *1<sup>st</sup> year PhD student at UT Austin*, Server Architecture for Datacenter Workloads.
- 2025-Present **Alan Andrade**, *1<sup>st</sup> year PhD student at UT Austin*, Frontend-Bound Cycles in Datacenters.
- 2025-Present **Filippos Tofalos**, *2<sup>nd</sup> year PhD student at UIUC*, Automating Accelerator Code Generation.
- 2023-2025 **Abraham Farrell**, *2<sup>nd</sup> year PhD student at UIUC*, Hardware Design for Cloud Workloads.
- 2024-2025 **JooYoung Park**, *1<sup>st</sup> year PhD student at NTU Singapore*, Networking for Serverless Workloads.
- 2023-2024 **Nikoleta Iliakopoulou**, *2<sup>nd</sup> year PhD student at UIUC*, Infrastructure for Efficient LLM Serving.
- 2023-2023 **Krut Patel**, *1<sup>st</sup> year master's student at UIUC*, Graph Analytics on Serverless Platforms.
- 2022-2023 **Chunao Liu**, *1<sup>st</sup> year master's student at Purdue*, CPU Architecture for Microservice Workloads.
- 2022-2023 **Feiran Qin**, *4<sup>th</sup> year undergraduate student at Shanghai Tech*, SW Design for FaaS Workloads.

## Teaching Experience

- Spring 2025 **Teaching Assistant**, *UIUC*, CS 533 Parallel Computer Architecture.
- Spring 2024 **Guest Lecture**, *UIUC*, CS 533 Parallel Computer Architectures, "Architecture for Datacenters".
- Spring 2023 **Guest Lecture**, *UIUC*, CS 533 Parallel Computer Architectures, "Memory Hierarchies".
- Fall 2022 **Guest Lecture**, *UIUC*, CS 534 Energy Efficient Computer Architectures, "Process Variations".
- Spring 2020 **Undergrad TA**, *University of Belgrade*, Operating Systems, Object-oriented Programming.
- Fall 2019 **Undergrad TA**, *University of Belgrade*, Computer Architecture, Algorithms and Data Structures, Fundamentals of Databases, Concurrent and Distributed Programming.
- Spring 2019 **Undergrad TA**, *University of Belgrade*, Computer Networks, Probability and Statistics, Operating Systems, Object-oriented Programming.
- Fall 2018 **Undergrad TA**, *University of Belgrade*, Computer Architecture, Algorithms and Data Structures.
- Spring 2018 **Undergrad TA**, *University of Belgrade*, Lab Exercises in Fundamentals of Electrical Engineering.

## Service Experience

- 2025-Present **Program Committee Member**, *ISCA'26, ASPLOS'26, HPCA'26, EuroSys'26, HiPC'26, ASPLOS'25*.
- 2021-2025 **Graduate Student Ambassador**, *Computer Science Department at UIUC*, Help recruit students and guide admitted students to feel welcome.
- 2023-2025 **Compilers, Architecture, and Parallel Computing (CAP) Seminar Organizer**, *Computer Science Department at UIUC*, Organize events, lead discussions, and invite speakers.
- 2023-Present **Meet a Senior Student (MaSS)**, *Computer Architecture Conferences (ISCA, ASPLOS)*, Guide early-career students with their research and navigate them through the PhD process.

## Technical Skills

**Programming languages:** C, C++, Java, Python, Golang, Scala, Kotlin, Arduino, Assembly (x86 and ARM)

**Software stacks:** *container environments* (Docker, Kubernetes), *serverless platforms* (KNative, OpenWhisk), *LLM serving* (vLLM, FasterTransformer), *storage systems* (Azure Blob Storage, MongoDB, Redis, Memcached)

**Hardware platforms:** GPUs, FPGAs, Arduino Uno, Raspberry Pi

**Architecture simulators:** SST, Simics, gem5, QEMU, Pin, ChampSim