

# Antonios (Antonis) Psistakis

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## Education

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**University of Illinois at Urbana-Champaign (UIUC)** Aug 2020 – Present  
*PhD in Computer Science*

- Expected Graduation: August 2026
- **Research Areas:** Architecture, Compilers, and Parallel Computing

**University of Crete (UOC)** Sept 2017 – Nov 2019  
*MSc in Computer Science and Engineering*

- **Specialization:** Micro-electronic Systems Architecture, Parallel and Distributed Systems
- **Thesis:** *Handling of Memory Page Faults during Virtual-Address RDMA* — Avoided pinning of process page tables that hinders memory utilisation. Proposed design with non-pinned pages requiring runtime fault handling.
- GPA: 9.14 / 10.0

**University of Crete (UOC)** Sept 2013 – Jul 2017  
*BSc in Computer Science*

- **Thesis:** *IOMMU Support for Virtual-Address Remote DMA in an ARMv8 Environment* — Virtual-address RDMA using ARM's IOMMU (SMMU) on Xilinx Zynq Ultrascale+.
- GPA: 8.5 / 10.0 (Ranked 3rd in class of 2017)

## Research and Work Experience

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**Research Assistant** Urbana, IL  
*UIUC and i-acoma group* Aug 2020 – Present

- Topics: Combining consistency and persistency models in datacenters, exploiting the sub-microsecond latency of RDMA, utilizing SmartNICs, and designing efficient distributed transactions. Additionally, working on fault tolerance for leaderless and CXL-enabled systems.
- Supervisor: Prof. Josep Torrellas

**Graduate Research Intern** Redmond, WA  
*Microsoft (Azure Research – Systems)* May 2024 – Aug 2024

- Topic: Compute Express Link (CXL) characterization and use case exploration for memory pooling.

**Graduate Research Intern** Santa Clara, CA  
*NVIDIA* May 2022 – Aug 2022

- Topic: Congestion control and fairness in networks, and formal analysis.

**Research Engineer** Heraklion, Greece  
*CARV Lab, ICS-FORTH* Dec 2019 – Aug 2020

- Topics: Evaluation and expansion of hardware prototypes developed by CARV, focusing on FPGA-based RDMA systems.
- Supervisor: Prof. Manolis G.H. Katevenis

## Scholarships, Fellowships, and Awards

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**Graduate Student Fellowship** Urbana, IL  
*University of Illinois at Urbana-Champaign (UIUC)* Aug 2023 – Present

**Research Assistantship** Urbana, IL  
*UIUC & i-acoma group* Aug 2020 – Present

**Graduate Assistantship**  
CARV, ICS-FORTH & University of Crete

Heraklion, Greece  
Nov 2017 – Nov 2019

**Training-Specialization Scholarship**  
CARV, ICS-FORTH

Heraklion, Greece  
Jul 2017 – Oct 2017

**Distinguished Undergraduate Scholarship “Stelios Orphanoudakis”**  
CARV, ICS-FORTH & University of Crete

Heraklion, Greece  
2014 – 2017

- Awarded for being among the top 3 students during the 1st, 2nd, and 3rd year of undergraduate studies

## Conference and Journal Publications

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1. Kokolis A., **Psistakis A.**, Reidys B., Huang J., Torrellas J. (2024). “*HADES: Hardware-Assisted Distributed Transactions in the Age of Fast Networks and SmartNICs*”. **51st Annual International Symposium on Computer Architecture (ISCA 2024)**.
2. **Psistakis A.**, Chaix F., Torrellas J. (2024). “*MINOS: Distributed Consistency and Persistency Protocol Implementation & Offloading to SmartNICs*”. **30th IEEE International Symposium on High-Performance Computer Architecture (HPCA 2024)**.
3. **Psistakis A.**, Chrysos N., Chaix F., Asiminakis M., Ganioudis M., Xirouchakis P., Papaefstathiou V., Katevenis M. (2022). “*Optimized Page Fault Handling during RDMA*”. **IEEE Transactions on Parallel and Distributed Systems (TPDS 2022)**.
4. Kokolis A., **Psistakis A.**, Reidys B., Huang J., Torrellas J. (2022). “*Distributed Data Persistency*”. **IEEE Micro Top Picks in Computer Architecture**, vol. 42, no. 4, pp. 107–115, July–Aug. 2022.
5. Kokolis A., **Psistakis A.**, Reidys B., Huang J., Torrellas J. (2021). “*Distributed Data Persistency*”. **54th IEEE/ACM International Symposium on Microarchitecture (MICRO 2021)**. *Selected as one of the IEEE Micro Top Picks from Computer Architecture Conferences of the year*.
6. **Psistakis A.**, Chrysos N., Chaix F., Asiminakis M., Ganioudis M., Xirouchakis P., Papaefstathiou V., Katevenis M. (2020). “*PART: Pinning Avoidance in RDMA Technologies*”. **14th IEEE/ACM International Symposium on Networks-on-Chip (NOCS 2020)**.
7. Asvestopoulou T., Manousaki V., **Psistakis A.**, Nikolli E., Andreadakis V., Aslanides I.M., Pantazis Y., Smyrnakis I., Papadopoulou M. (2019). “*Towards a Robust and Accurate Screening Tool for Dyslexia with Data Augmentation using GANs*”. **IEEE 19th International Conference on Bioinformatics and Bioengineering (BIBE 2019)**, Athens, Greece, October 28–30, 2019.

## Workshop Publications

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8. Zhong Y., Berger D., Zardoshti P., Saurez E., Nelson J., **Psistakis A.**, Fried J., Cidon A. (2025). “*Beware, PCIe Switches! CXL Pools Are Out to Get You*”. **The ACM SIGOPS 20th Workshop on Hot Topics in Operating Systems 2025 (HotOS XX)**, Banff, Alberta, Canada, May 14–16, 2025.
9. **Psistakis A.**, Alverti C., Torrellas J. (2025). *Lightning Talk*. “*LeaderlessCXL: Leaderless Distributed Systems in the Era of CXL*”. **12th Workshop on Principles and Practice of Consistency for Distributed Data (PaPoC 2025)** – in conjunction with ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS) 2025 and EuroSys 2025, Rotterdam, Netherlands, March 30 - April 3, 2025.
10. **Psistakis A.**, Ocalan B., Chaix F., Alagappan R., Torrellas J. (2023). “*IASO: Recovery in Leaderless Distributed Systems*”. **SOSP Doctoral Workshop 2023 (SySDW23)** – in conjunction with the 29th ACM Symposium on Operating Systems Principles, Koblenz, Germany, October 23–26, 2023.
11. Ploumidis M., Kallimanis N., Asiminakis M., Chrysos N., Xirouchakis P., Ganioudis M., Tzanakis L., Dimou N., **Psistakis A.**, Peristerakis P., Kalokairinos G., Papaefstathiou V., Katevenis M. (2019). “*Software and Hardware Co-Design for Low-Power HPC Platforms*”. **5th International Workshop on Communication Architectures for HPC, Big Data, Deep Learning and Clouds at Extreme Scale (ExaComm’19)** – in conjunction with the International Supercomputing Conference (ISC), Frankfurt, Germany, June 20, 2019.
12. Ploumidis M., **Psistakis A.**, Asiminakis M., Xirouchakis P., Ganioudis M., Peristerakis P., Chaix F., Papaefstathiou V., Chrysos N., Katevenis M. (2018). “*Exploiting the ExaNeSt Communication Primitives for a High Performance MPI Library*”. **ExascaleHPC: the ExaNoDe, ExaNeSt, EcoScale, and EuroEXA Projects** – in conjunction with the HiPEAC 2018 Conference, Manchester, UK, January 23, 2018.

## Posters

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1. **Psistakis A.**, Chaix F., Torrellas J. (2023). “*MINOS: Distributed Consistency and Persistency Implementation and Offloading to SmartNICs*”. Poster presented at the **1st ACE Annual Review**, Urbana, Illinois, October 3–5, 2023.
2. **Psistakis A.**, Peristerakis P., Xirouchakis P., Gianioudis M., Kalokairinos G., Chrysos N., Chaix F., Pappafstathiou V., Katevenis M. (2018). “*User-level RDMA with IOMMU Support on ARM Platforms*”. Poster presented at the **14th HiPEAC ACACES**, Advanced Computer Architecture and Compilation for Embedded Systems, 2018.

## Invited Talks

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1. *Talk on Consistency, Persistency, and Offloading Them into SmartNICs*, **Intel**, February 2023.

## Teaching

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### Graduate Teaching Assistant

University of Crete (UOC)

Heraklion, Greece

Sept 2017 – Nov 2019

- **Digital Design (CS-120)** – Fall 2017, Fall 2018 ([course website](#)) [🔗](#)
- **Computer Organization (CS-225)** – Spring 2018, Spring 2019 ([course website](#)) [🔗](#)

## Technical Skills

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- **Programming Languages:** C, C++, Bash, Verilog, System Verilog, Python, MATLAB, Java, SQL, HTML, PHP
- **Architectures:** ARMv8, RISC-V
- **Tools:** Xilinx (e.g., Vivado, SDK), Synopsys (e.g., VCS)
- **Operating Systems:** Linux, macOS, Windows