

EDUCATION	National Technical University of Athens, Greece PhD candidate, Computing Systems Laboratory 2017 - ongoing • Subject: System software mechanisms, policies and interfaces to support novel virtual memory features of emerging ISAs • Advisor: Prof. Georgios Goumas National Technical University of Athens, Greece Diploma in Electrical and Computer Engineering 2005 - 2011 • Diploma Thesis: HPC Interconnects in Virtualized Environments • Advisor: Prof. Nectarios Koziris
RESEARCH INTERESTS	Operating Systems, Virtual Memory, Virtualization, Serverless Computing
RESEARCH EXPERIENCE	Institute of Communication and Computer Systems, Athens, Greece <i>Vitamin-V: Virtual Environment and Tool-boxing for Trustworthy Development of RISC-V based Cloud Services</i> January 2023 - present Contributing to the porting of the cloud virtualization stack (rust-vmm, firecracker, Kata Containers) to RISC-V. <i>Aero: Software ecosystem for the EU processor</i> January 2022 - present Contributing to the deployment, evaluation and optimization of a fully-fledged serverless and cloud stack on ARMv8-A processors. <i>DAPHNE: Integrated Data Analysis Pipelines</i> December 2020 - January 2025 Contributing to the development of the DAPHNE runtime system (C++) and its interface with the DAPHNE LLVM/MLIR compiler toolchain. <i>ACTiCLOUD: Resource efficiency in the cloud</i> October 2017 - December 2019 Contributed to the development of the profiling and decision making component (Acti-Manager) of the ACTiCLOUD project.
PROFESSIONAL EXPERIENCE	Greek Research and Academic Network, Athens, Greece <i>Cloud engineer</i> October 2011 - February 2016 Member of GRNET's ~okeanos IaaS cloud development team (Python / Django, C, CI) <i>Site Reliability Engineer</i> May 2015 - February 2016 Member of GRNET's Network Operations Center (NOC) - Servers team, responsible for the deployment and maintenance of GRNET's cloud infrastructure. DPG Web Development, Athens, Greece <i>Site Reliability Engineer</i> June 2011 - October 2011 Deployment and maintenance of a host of web servers and services (LAMP stack)

Computing Center, School of Electrical and Computer Engineering, NTUA, Greece

System and network administrator (part-time)

January 2008 - September 2010

System and network administration of the services, servers and workstations of the lab.

AWARDS

HotStorage'25 Best Paper Award

First author, for the [paper](#) "SnapBPF: Exploiting eBPF for Serverless Snapshot Prefetching"

ASPLOS'25 Best Paper Award

Co-author, for the [paper](#) "CXLfork: Fast Remote Fork over CXL Fabrics"

HiPEAC Paper Award

Co-author, for the [paper](#) "Enhancing and Exploiting Contiguity for Fast Memory Virtualization"

First author, for the [paper](#) "Elastic Translations: Fast Virtual Memory with Multiple Translation Sizes"

COMMITTEE SERVICE

USENIX Annual Technical Conference (ATC)

Artifact Evaluation Committee (AEC) for '23, '24

ACM EuroSys

Artifact Evaluation Committee (AEC) for '25

USENIX Symposium on Operating Systems Design and Implementation (OSDI)

Artifact Evaluation Committee (AEC) for '23, '24, '25

ACM Symposium on Operating Systems Principles (SOSP)

Artifact Evaluation Committee (AEC) for '24

Journal of Systems Research (JSys)

Artifact Evaluation Board (AEB) for '23

PEER REVIEW EXPERIENCE

IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CC-Grid)

Sub-reviewer for '18, '19

ACM Computing Frontiers (CF)

Sub-reviewer for '18, '19

IEEE International Conference on Cloud Computing (CLOUD)

Sub-reviewer for '22, '24

IEEE International Conference on Cluster Computing (CLUSTER)

Sub-reviewer for '21

International European Conference on Parallel and Distributed Computing (Euro-Par)

Sub-reviewer for '25

OTHER ACTIVITIES **Teaching Assistant, Computing Systems Laboratory, ECE, NTUA**

TA for the *OS and Advanced OS Courses*

September 2017 - present

Gentoo Linux Developer, Gentoo Foundation

Gentoo Kernel Maintainer

June 2011 - March 2017

SKILLS

- POSIX Systems Programming
- Linux Kernel Programming
- Virtualization (microVMs, unikernels)
- Cloud and Serverless Computing (containers, k8s, OpenStack, AWS)
- Site Reliability Engineering and (Linux) Systems Administration
- RESTful Webapp Development (Python Django, Python Flask)
- Across-the-stack debugging and troubleshooting

Programming languages:

- Fluent: C, Rust, Python, Shell scripting
- Familiar: C++, Go, assembly (x86, ARM)

Languages:

- English (fluent): Cambridge Certificate of Proficiency in English (CPE)
- German (basic familiarity): Goethe Institute Zentrale Mittelstufenprüfung (ZMP)

PUBLICATIONS

- Chloe Alverti, Stratos Psomadakis, Burak Ocalan, et al. “Cxlfork: Fast remote fork over cxl fabrics”. In: *Proceedings of the 30th ACM International Conference on Architectural Support for Programming Languages and Operating Systems, Volume 2*. 2025. URL: <https://doi.org/10.1145/3676641.3715988>.
- Orestis Lagkas Nikolos, Chloe Alverti, Stratos Psomadakis, et al. “Scaling Serverless Functions: Horizontal or Vertical? Both!” In: *Proceedings of the 3rd Workshop on SErverless Systems, Applications and MEthodologies*. 2025. URL: <https://doi.org/10.1145/3721465.3721865>.
- Stratos Psomadakis, Dimitrios Siakavaras, Chloe Alverti, et al. “SnapBPF: Exploiting eBPF for Serverless Snapshot Prefetching”. In: *Proceedings of the 17th ACM Workshop on Hot Topics in Storage and File Systems*. 2025. URL: <https://doi.org/10.1145/3736548.3737823>.
- Christos Katsakioris, Chloe Alverti, Konstantinos Nikas, et al. “FaaSRAil: Employing Real Workloads to Generate Representative Load for Serverless Research”. In: *33rd International Symposium on High-Performance Parallel and Distributed Computing (HPDC)*. 2024. URL: <https://doi.org/10.1145/3592533.3592812>.
- Konstantinos Mores, Stratos Psomadakis, and Georgios Goumas. “eBPF-mm: Userspace-guided memory management in Linux with eBPF”. In: *arXiv/CoRR* (2024). URL: <https://arxiv.org/abs/2409.11220>.
- Nikolaos-Charalampos Papadopoulos, Stratos Psomadakis, Vasileios Karakostas, et al. “Design, Implementation and Evaluation of the SVNAPOT Extension on a RISC-V Processor”. In: *arXiv/CoRR* (2024). URL: <https://doi.org/10.48550/arXiv.2406.17802>.
- Stratos Psomadakis, Chloe Alverti, Vasileios Karakostas, et al. “Elastic Translations: Fast virtual memory with multiple translation sizes”. In: *57th International Symposium on Microarchitecture (MICRO)*. 2024. URL: <https://doi.org/10.1109/MICRO61859.2024.00012>.
- Christos Katsakioris, Chloe Alverti, Konstantinos Nikas, et al. “FaaSCell: A Case for Intra-node Resource Management: Work-In-Progress”. In: *Proceedings of the 1st Workshop on SErverless Systems, Applications and MEthodologies, SESAME 2023, Rome, Italy, 8 May 2023*. 2023. URL: <https://doi.org/10.1145/3592533.3592812>.
- Stratos Psomadakis and Georgios Goumas. “Transparent OS Support for Variable Translation Sizes”. In: *EuroSys’23 Poster session, Rome, Italy, May 2023*. 2023. URL: <https://2023.eurosys.org/accepted-posters.html#accepted-posters>.
- Aristotelis Vontzalidis, Stratos Psomadakis, Constantinos Bitsakos, et al. “DAPHNE Runtime: Harnessing Parallelism for Integrated Data Analysis Pipelines”. In: *Euro-Par 2023: Parallel Processing Workshops - Euro-Par 2023 International Workshops, Limassol, Cyprus, August 28 - September 1, 2023, Revised Selected Papers, Part II*. 2023. URL: https://doi.org/10.1007/978-3-031-48803-0%5C_25.
- Patrick Damme, Marius Birkenbach, Constantinos Bitsakos, et al. “DAPHNE: An Open and Extensible System Infrastructure for Integrated Data Analysis Pipelines”. In: *12th Conference on Innovative Data Systems Research, CIDR 2022, Chaminade, CA, USA, January 9-12, 2022*. 2022. URL: <https://www.cidrdb.org/cidr2022/papers/p4-damme.pdf>.
- Chloe Alverti, Stratos Psomadakis, Vasileios Karakostas, et al. “Enhancing and Exploiting Contiguity for Fast Memory Virtualization”. In: *47th ACM/IEEE Annual International Symposium on Computer Architecture, ISCA 2020, Valencia, Spain, May 30 - June 3, 2020*. 2020. URL: <https://doi.org/10.1109/ISCA45697.2020.00050>.
- Orestis Lagkas Nikolos, Konstantinos Papazafeiropoulos, Stratos Psomadakis, et al. “Extending storage support for unikernel containers”. In: *Proceedings of the 5th International Workshop on Serverless Computing, WOSC@Middleware 2019, Davis, CA, USA, December 09-13, 2019*. 2019. URL: <https://doi.org/10.1145/3366623.3368138>.

- Stratos Psomadakis, Stefanos Gerangelos, Dimitrios Siakavaras, et al. “ACTiManager: An end-to-end interference-aware cloud resource manager”. In: *Proceedings of the 20th International Middleware Conference Demos and Posters, Middleware 2019, Davis, CA, USA, December 9-13, 2019*. 2019. URL: <https://doi.org/10.1145/3366627.3368114>.
- Vasileios Karakostas, Georgios I. Goumas, Ewnetu Bayuh Lakew, et al. “Efficient resource management for data centers: the ACTiCLOUD approach”. In: *Proceedings of the 18th International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation, Pythagorion, Greece, July 15-19, 2018*. 2018. URL: <https://doi.org/10.1145/3229631.3236095>.
- Aimilios Tsalapatis, Stefanos Gerangelos, Stratos Psomadakis, et al. “utmem: Towards Memory Elasticity in Cloud Workloads”. In: *High Performance Computing - ISC High Performance 2018 International Workshops, Frankfurt/Main, Germany, June 28, 2018, Revised Selected Papers*. 2018. URL: https://doi.org/10.1007/978-3-030-02465-9%5C_12.
- Anastassios Nanos, Nikos Nikoleris, Stratos Psomadakis, et al. “A Smart HPC Interconnect for Clusters of Virtual Machines”. In: *Euro-Par 2011: Parallel Processing Workshops - CCPI, CGWS, HeteroPar, HiBB, HPCVirt, HPPC, HPSS, MDGS, ProPer, Resilience, UCHPC, VHPC, Bordeaux, France, August 29 - September 2, 2011, Revised Selected Papers, Part II*. 2011. URL: https://doi.org/10.1007/978-3-642-29740-3%5C_45.