

Emil Tsalapatis

Website: <https://watchedkettle.com> *Mail:* emil@etsalapatis.com *GitHub:* <https://www.github.com/etsal>

Education

Computer Science

PhD Degree

Focus Areas: Operating Systems, File Systems, Cloud Computing

Thesis Topic: Efficient Fine-grained Application Persistence with a Single Level Store OS

University of Waterloo

September 2018 - July 2024 (Expected)

Electrical and Computer Engineering

Joint BSc & MSc Degree

National Technical University of Athens (NTUA)

September 2012 - May 2018

Work Experience

University of Waterloo

PhD Researcher

September 2018 - June 2024 (Expected)

Waterloo, ON, Canada

- Led the Aurora operating system project that totals 3 PhD researchers & 5 undergraduate students
- Published papers at top venues (SOSP, ASPLOS, HotOS)
- Wrote 40KSLOC for the FreeBSD kernel on the memory management, system calls, and file system subsystems
- Authored a kernel extension for automatic application crash recovery (*SOSP 2021*), an OS persistence API for databases (*ASPLOS 2024*), and a serverless invoker for μ s cold starts (under submission)

University of Waterloo

Sessional Lecturer/Teaching Assistant

September 2019 - December 2023

Waterloo, ON, Canada

- Taught a CS350 Operating Systems course of 300 students for the Winter 2021 semester
- Led a 12-person team of teaching assistants over three years for grading and office hours
- Designed and authored the course assignments, wrote a Docker- and Python-based submission system

Computing Systems Lab, NTUA

Undergraduate Researcher

September 2016 - May 2018

Athens, Greece

- Designed an API for the Linux KVM hypervisor to achieve virtual machine memory elasticity w/o ballooning
- Presented a peer-reviewed publication on the work at the International Supercomputing Conference

Selected Publications

E. Tsalapatis, R. Hancock, A. J. Mashtizadeh, and S. Al-Kiswany, “(Title elided): OS Support for μ s Serverless Cold Starts,” in *In Submission.*, 2024.

E. Tsalapatis*, R. Hancock*, R. Hossain, and A. J. Mashtizadeh, “MemSnap: A Data Single Level Store for Fearless Persistence,” in *Proceedings of the 29th ACM International Conference on Architectural Support for Programming Languages and Operating Systems*, ASPLOS 2024, Association for Computing Machinery, 2024.

E. Tsalapatis, R. Hancock, T. Barnes, and A. J. Mashtizadeh, “The Aurora Single Level Store Operating System,” in *Proceedings of the ACM SIGOPS 28th Symposium on Operating Systems Principles*, SOSP ’21, (New York, NY, USA), p. 788–803, Association for Computing Machinery, 2021.

E. Tsalapatis, R. Hancock, T. Barnes, and A. J. Mashtizadeh, “The Aurora Operating System: Revisiting the Single Level Store,” in *Proceedings of the Workshop on Hot Topics in Operating Systems*, HotOS ’21, (New York, NY, USA), p. 136–143, Association for Computing Machinery, 2021.

Technical skills

Programming Languages

C, Python, Bash Scripting, Familiarity with C++ and Rust

System Software & Databases

Linux, FreeBSD, RocksDB, Redis, SQLite, KVM, Docker