DIMITRA GIANTSIDI

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10 Crichton Street, EH8 9AB, Edinburgh, United Kingdom

I like to build robust and efficient distributed systems!

I am a final year PhD student at the University of Edinburgh, UK and as part of my research, I have worked on some interesting projects: a secure distributed transactional store (Trusted Execution Environments, RDMA and RocksDB), a shielded direct I/O network library for secure replication (Crash Fault Tolerance and BFT) and a fast shared log for serverless computing infrastuctures (byte addressable storage, gRPC/TCP). I am currently designing a trusted NIC architecture for large-scale distributed systems based on SmartNICs.

PROFESSIONAL EXPERIENCE

ICSA, University of Edinburgh, UK June 2023 - now
Research Assistant
· Implementation of an RDMA-based smartNIC architecture for improved security guarantees.
· Design and optimization of robust networking protocols for fault tolerance.

Condidential Computing Group, Microsoft Research, Cambridge, UK Sept 2021 - Dec 2021
Research Scientist Intern
· Design and implementation of a single-node KV store resilient to timing-attacks.

Cloud RnD, Intracom Telecom, Athens, Greece Jul 2017 - Jul 2018
Software & Systems Engineer
· Performance and energy optimization of NFV services.

Unversity of Edinburgh, UK and TUM, Germany Sept 2019 - present
Thesis advisor and Teaching Assistant
· Operating Systems, Distributed Computing, Parallel Architectures, Object-oriented Programming.
· Supervised five BSc/MSc students on their BSc Thesis on Distributed and Networking systems.

EDUCATION

University of Edinburgh, UK Sept 2019 - present
PhD in Informatics (ICSA): Distributed systems, systems security, replication protocols
· Sponsors: Microsoft Research, UK Rise, Advisor: Pramod Bhatotia
· Design of robust distributed data management systems leveraging trusted hardware and byte-addressable storage.

University of Edinburgh, UK Sept 2018 - Aug 2019
MSc in Computer Science: Software engineering, computer systems & high-performance computing
· Thesis: *Rollback-Resilient Transaction Protocols using Trusted Counters* (Best Performing Female MSc Student Award)

National Technical University of Athens (NTUA), Greece Sept 2012 - Feb 2018
Diploma (5-year joint degree, BEng and MEng) in Electrical & Computer Engineering
· Thesis: *Improving QoS in modern multi-core servers with Dynamic Cache Partitioning*

PUBLICATIONS

Anchor: Secure Persistent Memory Architecture, SIGMOD'24
Dimitris Stravakakis, Dimitra Giantsidi, Maurice Bailleu, Philip Saendig, Shady Issa, Pramod Bhatotia.

FlexLog: A Shared Log for Stateful Serverless Computing, ACM HPDC'23
Dimitra Giantsidi, Emmanouil Giortamis, Nathaniel Tornow, Florin Dinu, Pramod Bhatotia.

Treaty: Secure Distributed Transactions, IEEE/IFIP DSN'22 (Best paper nominee)
Dimitra Giantsidi, Maurice Bailleu, Natacha Crooks, Pramod Bhatotia.

Avocado: A Secure In-Memory Distributed Storage System, USENIX ATC'21
Maurice Bailleu, Dimitra Giantsidi, Vasilis Gavrielatos, Le Quoc Do, Vijay Nagarajan, Pramod Bhatotia.

DICER: Diligent Cache Partitioning for Efficient Workload Consolidation, ICPP'21
Konstantinos Nikas, Nikela Papadopoulou, Dimitra Giantsidi, Vasileios Karakostas, Georgios I Goumas, Nectarios Koziris.

TECHNICAL SKILLS

Programming Languages	C/C++, Python, Bash, Golang, Java
Systems Programming	RocksDB and folly libraries, TEEs (Intel SGX, OpenEnclave SDK, AMD-sev), direct network I/O (DPDK, RDMA,Alveo SmartNICs), SPDK, Intel RDT, LLVM, collectd, POSIX/Unix, OpenMP and MPI, gRPC
Virtualization	KVM, Qemu/Libvirt, Docker, Kubernetes
Version Control	Git
Distributed Programming	Hadoop MapReduce, Socket and RPC programming