

# DIMITRA GIANTSIDI

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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 a few interesting projects: a secure distributed transactional storage system (Trusted Execution Environments, RDMA and RocksDB), a shielded direct I/O networking for secure replication (Crash Fault Tolerant and BFT protocols) and a fast shared log for serverless computing infrastructures (byte addressable storage, gRPC/TCP).

Currently, I am working on the design of a trusted NIC architecture for large-scale distributed systems on top of SmartNICs.

## PROFESSIONAL EXPERIENCE

<b>ICSA, University of Edinburgh, UK</b> <i>Research Assistant</i>	June 2023 - now
<ul style="list-style-type: none"><li>· Implementation of an RDMA-based smartNIC architecture for improved security guarantees.</li><li>· Design and optimization of robust networking protocols for fault tolerance.</li></ul>	
<b>Condidential Computing Group, Microsoft Research, Cambridge, UK</b> <i>Research Scientist Intern</i>	Sept 2021 - Dec 2021
<ul style="list-style-type: none"><li>· Design and implementation of a single-node KV store resilient to timing-attacks.</li></ul>	
<b>Cloud RnD, Intracom Telecom, Athens, Greece</b> <i>Software &amp; Systems Engineer</i>	Jul 2017 - Jul 2018
<ul style="list-style-type: none"><li>· Performance and energy optimization of NFV services.</li></ul>	
<b>Unversity of Edinburgh, UK and TUM, Germany</b> <i>Thesis advisor and Teaching Assistant</i>	Sept 2019 - present
<ul style="list-style-type: none"><li>· Operating Systems, Distributed Computing, Parallel Architectures, Object-oriented Programming.</li><li>· Supervised five BSc/MSc students on their BSc Thesis on Distributed and Networking systems.</li></ul>	

## EDUCATION

<b>University of Edinburgh, UK</b> <i>PhD in Informatics (ICSA): Distributed systems, systems security, replication protocols</i>	Sept 2019 - present
<ul style="list-style-type: none"><li>· Sponsors: Microsoft Research, UK Rise, Advisor: Pramod Bhatotia</li><li>· Design of robust distributed data management systems leveraging trusted hardware and byte-addressable storage.</li></ul>	
<b>University of Edinburgh, UK</b> <i>MSc in Computer Science: Software engineering, computer systems &amp; high-performance computing</i>	Sept 2018 - Aug 2019
<ul style="list-style-type: none"><li>· Thesis: <i>Rollback-Resilient Transaction Protocols using Trusted Counters</i>, Advisor: Pramod Bhatotia</li><li>· Secure transaction protocols for LSM-based KV stores.</li></ul>	
<b>National Technical University of Athens (NTUA), Greece</b> <i>Diploma (5-year joint degree, BEng and MEng) in Electrical &amp; Computer Engineering</i>	Sept 2012 - Feb 2018
<ul style="list-style-type: none"><li>· Thesis: <i>Improving QoS in modern multi-core servers with Dynamic Cache Partitioning</i>, Advisor: Georgios Goumas</li><li>· Secure transaction protocols for LSM-based KV stores.</li></ul>	

## PUBLICATIONS

<b>Anchor: Secure Persistent Memory Architecture</b> , SIGMOD’24 Dimitris Stravakakis, Dimitra Giantsidi, Maurice Bailleu, Philip Saendig, Shady Issa, Pramod Bhatotia.
<b>FlexLog: A Shared Log for Stateful Serverless Computing</b> , ACM HPDC’23 Dimitra Giantsidi, Emmanouil Giortamis, Nathaniel Tornow, Florin Dinu, Pramod Bhatotia.
<b>Treaty: Secure Distributed Transactions</b> , IEEE/IFIP DSN’22 (Best paper nominee) Dimitra Giantsidi, Maurice Bailleu, Natacha Crooks, Pramod Bhatotia.
<b>Avocado: A Secure In-Memory Distributed Storage System</b> , USENIX ATC’21 Maurice Bailleu, Dimitra Giantsidi, Vasilis Gavrielatos, Le Quoc Do, Vijay Nagarajan, Pramod Bhatotia.
<b>DICER: Diligent Cache Partitioning for Efficient Workload Consolidation</b> , ICPP’21 Konstantinos Nikas, Nikela Papadopoulou, Dimitra Giantsidi, Vasileios Karakostas, Georgios I Goumas, Nectarios Koziris.

## TECHNICAL SKILLS

<b>Programming Languages</b>	C/C++, Python, Bash, Golang, Java
<b>Systems Programming</b>	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
<b>Virtualization</b>	KVM, Qemu/Libvirt, Docker, Kubernetes
<b>Version Control</b>	Git
<b>Distributed Programming</b>	Hadoop MapReduce, Socket and RPC programming

**HONORS AND AWARDS**

<b>PhD scholarship</b> , Microsoft Research	2019
<b>Claire Jones Prize</b> , Adelard Prize for Best Performing Female MSc Student at the University of Edinburgh	2019
<b>Highest Honors award</b> Top 0.1% in national qualification exams, GPA: 19.6/20	2012

**PROFILES**

<b>Personal site</b>	<a href="https://dgiantsidi.github.io/">https://dgiantsidi.github.io/</a>
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