

# DIMITRA GIANTSIDI

## Computer Systems Researcher

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## EDUCATION

### Ph.D. in Computer Science

#### University of Edinburgh, UK

📅 Sept 2019 – To be awarded on July 2024

*Thesis: Hardware-Assisted Distributed Dependable Systems, Microsoft Research PhD Fellow*

Advisor: Prof. Dr. Pramod Bhatotia

- Invented distributed systems for the untrusted cloud infrastructure with increased security properties and performance.
- Leveraged the recent hardware advancements in trusted computing, byte-addressable storage and kernel-bypass networking and SmartNICs.
- Submitted 4 first-author papers and 2 first-author paper acceptances (top tier).
- Awarded a best (first-author) paper nominee at IEEE/IFIP DSN'22 [Rank: A1] (3 nominees among 49 accepted papers and 262 total submissions).

### MSc in Computer Science

#### University of Edinburgh, UK

📅 Sept 2018 – Sept 2019

Highest Honors, Best Female MSc Thesis Award [link]

### MEng in Computer and Electrical Engineering

#### National Technical University of Athens, Greece

📅 Sept 2012 – March 2018

Highest Honors (Top 8%), Top 0.1% in national qualification exams

## SELECTED PUBLICATIONS

Complete list available [here]

- **TNIC: A trusted NIC architecture (ACM SIGCOMM'24 (Under review))**  
Created a trusted sw/hw NIC architecture with accelerator devices (FPGA) for secure cloud systems that offer up to  $5\times$  better throughput.
- **Flexlog: A shared log for stateful serverless computing.**  
*Dimitra Giantsidi, Emmanouil Giortamis, Nathaniel Tornow, Florin Dinu, Pramod Bhatotia*  
**ACM HPDC'23 [paper] [code]**, Rank: A1 [link], Acceptance rate: 18.20%.  
Created from the ground-up a distributed log system for serverless computing that outperforms the state-of-the-art up to  $10\times$  offering better flexibility in semantics on top of byte-addressable storage.
- **Treaty: Secure Distributed Transactions.**  
*Dimitra Giantsidi, Maurice Bailleu, Natacha Crooks, Pramod Bhatotia*  
**IEEE/IFIP DSN'22 [Best paper nominee] [code]**, Rank: A1, Acceptance rate: 18.20%.  
Created the **first** distributed transactional storage system in **real hardware** with strong security properties (integrity–confidentiality–freshness).
- **Avocado: A Secure In-Memory Distributed Storage System.**  
*Maurice Bailleu, Dimitra Giantsidi, Vasilis Gavrielatos, Le Quoc Do, Vijay Nagarajan, Pramod Bhatotia*  
**USENIX ATC'21 [paper] [code]**, Rank: A1 [link], Acceptance rate: 23.1%.  
Created a Byzantine Fault tolerant Multi-Reader/Multi-Writer replication protocol on top of Trusted Execution Environments that outperforms the state-of-the-art protocols for  $5\text{--}64\times$ .

## EMPLOYMENT

### Research Intern

#### Cloud and Infrastructure Security Group, Microsoft Research

📅 To start on May 2024 📍 Redmond, US

### Research Intern

#### Confidential Computing Group, Microsoft Research

📅 Sept 2021–Dec 2021 📍 Cambridge, UK

- Invented a new high-performance Key-Value store system for privileged attacks.
- Exceptional throughput results on widely used workloads in Microsoft's private datacenter.

### Research Software Engineer

#### University of Edinburgh

📅 June 2023 – present 📍 Edinburgh, UK

- Invented a new trusted NIC architecture for the cloud on top of FPGA-based SmartNICs.
- The system is superior in terms on performance and robustness w.r.t. current networked systems in the cloud.

### Software Systems Engineer

#### Intracom Telecom

📅 Jul 2017 – Jul 2018 📍 Athens, Greece

- Designed and built a resource-aware infrastructure for the cloud-hosted datacenters.
- The system saved energy and cpu resources while company's clients SLAs were met.

## ACADEMIC ACTIVITIES

### Teaching Assistant and Mentor

#### University of Edinburgh

📅 Dec 2019 – present 📍 Edinburgh, UK

- Selected as the most helpful and responsive assistant in Operating systems course in 2021–2023.
- Advised 6 BSc/MSc students (inspired one of them to join our research team as PhD student).

### Reviewer

- Web chair at EuroSys'21: designed and build the conference site [link].
- I love to discuss and think about new ideas: I served as a reviewer in top-tier systems conferences (EuroSys'23, SoCC'23, WWW'22).