DIMITRA GIANTSIDI

Computer Systems Researcher and Engineer

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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 is up to 5× faster w.r.t. to-state-of-the-art secure NICs.
- 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× 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—64×.

EMPLOYMENT

Research Intern

Cloud and Infrastructure Security Group, Microsoft Research

May 2024–Aug 2024 | Redmond, US

- Designed and built a new record-replay framework for confidential and integrity-preserving LLMs execution.

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 (SysTEX'24, EuroSys'23, SoCC'23, WWW'22).