CV

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Interests & Skills

Distributed Systems
- Consensus, Replication,
- Fault tolerance, Availability,
- Key-Value-Stores, RDMA

Computer Architecture
- Consistency, Persistency,
- Parallelism, Memory Systems

Parallel Programming
- Language-level memory models

Software Engineering
- C, C++, Python, Linux

Hardware Design
- VHDL, Verilog, SystemC,
  Modelsim, Quartus

Education

Since 2017 University of Edinburgh	**Ph.D. in Computer Science** - Thesis: Enforcing Consistency in the Datacenter - Advisor: Vijay Nagarajan; Secondary Advisor: Boris Grot - Sponsored by ARM Centre of Excellence
2016-2017 University of Edinburgh	**M.Sc by research in Computer Science,** - Thesis: An RDMA-based skew-aware Key-Value Store - Advisor: Vijay Nagarajan; Secondary Advisor: Boris Grot
2009-2015 DUTH University	**B.Sc. & M.Sc. in Electrical & Computer Engineering** - Thesis: Heterogeneous links in VC-based Network-on-Chips - Advisor: George Dimitrakopoulos

Projects & Publications

EuroSys '21 (to appear)	**Odyssey: The Impact of Modern Hardware on Strongly-Consistent Replication Protocols** - Designed Odyssey, a framework tailored towards replication protocol implementation for multi-threaded, RDMA-enabled, in-memory KVSes. - Implemented and evaluated 10 protocols using Odyssey (including Paxos, ZAB & Hermes). - Characterized the space of strongly-consistent replication protocols and demonstrated the interplay between modern hardware and protocols.
PPoPP '20 Best paper nominee	**Kite: Efficient and Available Release Consistency for the Datacenter** - Designed Kite, the first highly-available, replicated Key-Value-Store that offers Release Consistency (and thus can be programmed similarly to C/C++11). - Kite combines Eventual Store, ABD & Classic Paxos along with a novel fast/slow path mechanism to ensure both high-performance and availability. - Demonstrated the efficacy of Kite by porting three lock-free data structures and showing that Kite outperforms the competition.
EuroSys '18	**Scale-out ccNUMA: Exploiting Skew with Strongly-Consistent Caching** - Designed a distributed, RDMA-enabled and multi-threaded Key-Value-Store that balances the load in the face of a skewed access pattern by symmetrically caching the most popular items in all nodes. - Implemented two fully-distributed protocols to offer two flavours of consistency.
ASPLOS '20 Micro Top Picks Honorable Mention	**Hermes: Fast and Reliable Data Replication with Linearizability** - Hermes is an RDMA-enabled, faul-tolerant replication protocol. - Assisted in design space exploration, protocol design and the paper writing. - Designed an RDMA-based ZAB to serve as a baseline to compare against.
ASPLOS '20	**Lazy Release Persistency** - A persistency model along with a microarchitectural technique that synergize with language-level memory models to ensure a consistent cut in the NVM after a crash. - Assisted in design space exploration, technique design and paper writing.
ATC '21 (submitted)	**Avocado: A Secure In-Memory Distributed Storage System** - Avocado is a secure replicated Key-Value Store that leverages Intel SGX, RDMA and the ABD protocol to achieve security, performance and consistency. - Assisted in design space exploration, advised on enforcing consistency and RDMA

Work Experience

Since 2017	**Teaching at the University of Edinburgh,** - TA / Tutor / Marker & covering Lectures - Classes: Computer Architecture, Introduction to Computer Systems Parallel Architectures
2016	**DSP engineer, Akya Limited, UK** - EDA tool design in C++