

Morteza Hoseinzadeh

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Education

- 2015–present **PhD**, *University of California San Diego*, under the supervision of Prof. Steven Swanson, La Jolla, USA.
- 2011–2013 **MSc**, *Sharif University of Technology*, under supervision of Prof. Hamid Sarbazi-Azad, Tehran, Iran.
- 2006–2011 **BSc**, *Shahed University*, Tehran, Iran.

PhD Thesis (Current Research)

Non-volatile memories (NVM) have been commercially available in the market. This kind of computer systems will inevitably rely on NVM-optimized software. My current research is focused on the formal verification of crash-consistent NVM-based data structures. This helps software developers to formally verify their implementations of persistent data-structures in both kernel and user-level applications.

Interests

Software development, programming language design, full stack engineering, memory/storage system design, Database, GUI design, kernel programming, and compilers.

Work Experience

- Summer 2020, **Oracle, ExaData group**: a summer internship at ExaScale team in Oracle ExaData group.
- Summer 2017, **Samsung SSI, Memory Solutions Lab**: a summer internship at MSL group in Samsung SSI.
- 2012-2015, **Sepehr Data Processing Co.**: Sn. Software Engineer.

Computer Skills

Programming Languages

- C/C++ (GNU, Qt, MSVC), Rust, Java, Pascal/Delphi, PHP, Python, Verilog, and more.

Technologies

- Coq
- SQL/MySQL/SQLite
- Web Development
- Kernel Programming

Publications

- **M. Hoseinzadeh**, S. Swanson, "*Corundum: Statically-Enforced Persistent Memory Safety*", the 26th international Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), 2021.
- J. Yang, J. Kim, **M. Hoseinzadeh**, J. Izraelevitz, S. Swanson, "*An Empirical Guide to the Behavior and Use of Scalable Persistent Memory*", the 18th USENIX Conference on File and Storage Technologies (FAST), pp. 169-182, 2020.
- S. Zheng, **M. Hoseinzadeh**, and S. Swanson, "*Ziggurat: A Tiered File System for Non-Volatile Main Memories and Disks*", the 17th USENIX Conference on File and Storage Technologies (FAST), 2019.
- **M. Hoseinzadeh**, "*Flow-based Simulation Methodology*", IEEE Computer Architecture Letters (IEEE CAL), vol. 17, no. 1, pp. 51-54, Jan.-June 1 2018.
- Z. Yang, **M. Hoseinzadeh**, A. Andrews, C. Mayers, D. T. Evans, R. T. Bolt, J. Bhimani, Ningfang Mi, and S. Swanson, "*AutoTiering: Automatic Data Placement Manager in Mult-Tier All-Flash Datacenter*", IEEE IPCCC 2017.
- Z. Yang, **M. Hoseinzadeh**, P. Wong, J. Artoux, C. Mayers, D. T. Evans, R. T. Bolt, J. Bhimani, N. Mi, and S. Swanson, "*H-NVMe: A Hybrid Framework of NVMe-based Storage System in Cloud Computing Environment*", IEEE IPCCC 2017, **best-paper award**.
- **M. Hoseinzadeh**, M. Arjomand, and H. Sarbazi-Azad, "*SPCM: The Striped Phase Change Memory*", *ACM Trans. Archit. Code Optim* (TACO). 12, 4, Article 38, 2016, 25 pages.
- **M. Hoseinzadeh**, M. Arjomand, and H. Sarbazi-Azad, "*Reducing Access Latency of MLC PCMs through Line Striping*", 41st International Symposium on Computer Architecture (ISCA) 2014.

Patents

- **M Hoseinzadeh**, Z. Yang, P. Wong, and D. Evans, "*Method for Data Center Storage Evaluation Framework Simulation*", (2017), U.S. Patent Application No. 15/896,590
- Z. Yang, **M Hoseinzadeh**, P. Wong, J. Artoux, and D. Evans, "*A Hybrid Framework of NVMe-Based Storage System in Cloud Computing Environment*", (2017), U.S. Patent Application No. 15/821,699
- Z. Yang, **M. Hoseinzadeh**, D. Evans, C. Mayers, and R. Bolt, "*Method and Apparatus for Adaptive Cache Load Balancing for SSD-Based Cloud Computing Storage System*", (2017), U.S. Patent Application No. 15/971,349