Lior Zeno – Curriculum Vitae

April 2019

General Information
ID: 305764318
Born: July 26, 1991

Permanent Address
3 Yasmin
Kiryat Bialik, Israel 2725505
(972) 509-260791

EDUCATION

Doctor of Philosophy (PhD), Electrical Engineering
Technion – Israel Institute of Technology, Haifa, Israel — March 2019 – present
Thesis: Accelerating distributed systems using smart switches

Master of Science (MSc), Electrical Engineering
Technion – Israel Institute of Technology, Haifa, Israel — October 2014 – February 2019
Thesis: I/O-Intensive Workloads on Accelerators

Bachelor of Science (BSc), Computer Engineering
Technion – Israel Institute of Technology, Haifa, Israel — October 2009 – October 2013
Specialized in: Distributed Systems, Software Systems and Computer Architecture

PROFESSIONAL EXPERIENCE

Technion – Israel Institute of Technology — March 2019 – present
Teaching Assistant
- Structure of Operating Systems (046209)

Israel Defense Forces - Military Intelligence — December 2016 – October 2018
Senior Software Engineer
- Developed a satellite imagery management web application (full-stack).
- Optimized latency-sensitive workflows, such as user-specific data and image loading times.

Rafael Advanced Defense Systems
Software Engineer — March 2015 – December 2016
- Designed and implemented data stream processing systems, focusing on data and graph analytic.
- Developed an algorithm for relational joins on top of Elasticsearch, based on broadcast joins.
- Conducted research that includes a full comparison, analysis and benchmarks in the following areas:
  - *Geo-spatial inner-joins.* Spatial RDBMS systems against in-memory solutions (including hybrid solutions) in terms of both communication and time complexity.
  - *Distributed Search Engines.* Theoretical comparison of Apache Solr and Elasticsearch, and a full evaluation of Elasticsearch. Acquired extensive theoretical and hands-on experience in Elasticsearch core.
  - *Distributed Messaging Systems.* Focused on achieving a balance between messaging throughput and latency. Acquired extensive theoretical and hands-on experience in Apache Kafka core.
  - *Real-Time Pipelining Systems.* Focused on log centralization systems, such as Apache Flume and Fluentd. The goal was to create a fully reliable pipeline that can achieve high-throughput with delivery guarantees. Acquired extensive theoretical and hands-on experience in Apache Flume core.

– *Cluster Management.* Focused primarily on Apache Mesos and Kubernetes. Comparing the usability, extensibility and scalability of both systems for long-running services and jobs. Acquired extensive theoretical and hands-on experience in Apache Mesos core.

Israel Defense Forces - Military Intelligence October 2013 – March 2015
Software Engineer

- Designed and implemented a RESTful low-frequency video distribution engine.
- Conducted research on lossy image compression focusing on custom, data-specific algorithms.
- Developed a rich-client, data-management desktop application.

PUBLICATIONS

- H. Eran, L. Zeno, Z. István, M. Silberstein. **Design Patterns for Code Reuse in HLS Packet Processing Pipelines.** In *Proceedings of the 27th IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM 2019)*, San Diego, CA, USA, April 2019.
- H. Eran, L. Zeno, G. Malka, M. Silberstein. **NICA: OS Support for Near-data Network Application Accelerators.** In *Proceedings of Workshop on Multi-core and Rack Scale Systems (MaRS 2017)*, Belgrade, Serbia, April 2017.
- L. Zeno, A. Mendelson, M. Silberstein. **GPUpIO: The Case for I/O-Driven Preemption on GPUs.** In *Proceedings of the 9th Annual Workshop on General Purpose Processing Using Graphics Processing Unit*, Barcelona, Spain, March 2016.

HONORS

- 1st place Mellanox BlueField Hackathon (2019).

PERSONAL INTERESTS

- Apache Flume and Apache Mesos contributor.