

# **CURRICULUM VITAE**

Full name: **Roman Kaplan**

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## **ACADEMIC DEGREES**

2016 – present    Doctoral Candidate, Electrical Engineering, Technion  
2016                MSc., Electrical Engineering, Technion  
2009                BSc., Computer Engineering, Technion

## **PROFESSIONAL EXPERIENCE (outside academia, if relevant)**

2012 – 2014      Systems Architect, IDF Navy, Tikshuv Center  
2009 – 2012      Software Engineer, IDF Navy, Tikshuv Center

## **TEACHING EXPERIENCE**

W2014/15 – present    Teaching Assistant, *Introduction to Data Structures and Algorithms*, undergraduate. Head teaching assistance since winter 2015/16.  
S2017                    Teaching Assistant, *Introduction to Faculty Research*, graduate and undergraduate.  
W2016/17                Teaching Assistant, *Parallel Computing Architecture*, graduate.  
Wrote benchmarks and produced datasets for new homework assignments.  
Also taught the introduction to convolutional neural networks.

## **AWARDS AND HONORS**

Jun 2017            ISC HPC 2017, Research Poster Award Winner in the ‘Architectures and Networks’ category  
Sep 2016            PACT 2016 Student Research Competition Award (gold medal)  
Winter 2016/17    Outstanding Teaching Assistant  
Spring 2016       Outstanding Teaching Assistant  
Winter 2015/16    Outstanding Teaching Assistant

## **PUBLICATIONS**

### **Refereed papers in professional journals**

#### **Published papers**

Roman Kaplan, Leonid Yavits, and Ran Ginosar and Uri Weiser, "A Resistive CAM Processing-in-Storage Architecture for DNA Sequence Alignment," IEEE Micro Special Issue on Architectures for the Post Moore Era, vol. 37, no. 4, pp. 20-28, 2017.

Roman Kaplan, Leonid Yavits, and Ran Ginosar, "From Processing-in-Memory to Processing-in-Storage," Journal of Supercomputing Frontiers and Innovations, vol. 4, no. 3, pp. 99-116, .

#### **Submitted papers**

Roman Kaplan, Leonid Yavits, and Ran Ginosar, "PRINS: PROcessing-in-Storage Acceleration of Machine Learning", IEEE Transactions on Nanotechnology.

Leonid Yavits, Roman Kaplan, and Ran Ginosar, "PRINS: Resistive CAM Processing in Storage", IEEE Transactions on VLSI.

### **Refereed Papers in Conference Proceedings**

Roman Kaplan, Leonid Yavits, Amir Morad, and Ran Ginosar, "Deduplication in resistive content addressable memory based solid state drive," 26<sup>th</sup> Power and Timing Modeling, Optimization and Simulation, pp. 100-106, 2016.

## **CONFERENCES**

### **Lectures**

Roman Kaplan and Ran Ginosar, "Accelerating Sparse Matrix-Vector Multiplication Using Compression on a Many-Core Processor," *ChipEx*, May 2015, Tel-Aviv.

Roman Kaplan, Leonid Yavits and Ran Ginosar, "Deduplication in Resistive CAM Based Solid State Drive", *ChipEx*, May 2016, Tel-Aviv.

Roman Kaplan, Leonid Yavits and Ran Ginosar, "An In-Storage Smith-Waterman Algorithm in Resistive CAM," in *In-Memory and In-Storage Computing with Emerging Technologies Workshop*, PACT, Sep 2016, Haifa.

Roman Kaplan, Leonid Yavits and Ran Ginosar, "Resistive CAM: A Processing-in-Storage (PRinS) Device," 4<sup>th</sup> *Memristor Technology, Design, Automation and Computing Workshop*, HiPEAC, Jan 2017, Stockholm.

### **Poster Presentations**

Roman Kaplan and Ran Ginosar, "Accelerating Sparse Matrix-Vector Multiplication Using Compression on a Many-Core Processor," *Intel ICRI-CI retreat*, May 2016.

Roman Kaplan and Ran Ginosar, “Accelerating Sparse Matrix-Vector Multiplication Using Compression on a Many-Core Processor,” in the *International Symposium on Computer Architecture*, Jun 2015, Portland, OR.

Roman Kaplan, Leonid Yavits, and Ran Ginosar, “In-Memory Implementation of Smith-Waterman Algorithm on a Resistive CAM,” *Intel ICRI-CI retreat*, May 2016, Haifa

Roman Kaplan, Leonid Yavits, and Ran Ginosar, “In-Storage Implementation of K-Means in Resistive CAM,” *International Conference on Memristive Materials, Devices & Systems*, Apr 2017, Athens.

Roman Kaplan, Leonid Yavits, and Ran Ginosar, “From Processing-in-Memory to Processing-in-Storage,” *Intel ICRI-CI retreat*, May 2017, Haifa.

Roman Kaplan, Leonid Yavits, and Ran Ginosar, “From Processing-in-Memory to Processing-in-Storage,” *International Supercomputing Conference for High Performance Computing*, Jun 2017, Frankfurt.

### **SPECIAL ACTIVITIES**

Feb 2018	“Accelerator Architecture in Computational Biology and Bioinformatics” workshop, in conjunction with IEEE International Symposium on High-Performance Computer Architecture (HPCA) 2018
May 2017	Faculty of Electrical Engineering representative at the Technion open day for undergraduate students, Azrieli tower
Spring 2017	Taking part in improving and re-defining the next semester of Introduction to Faculty Research course