Michal Horovitz

CV

Ph.D. Student, Computer Science Department, Technion, Israel

Personal Data

Home Address:	24 Savion, Rekhassim, Israel
Phone:	+972 53 3105 111
E-mail:	michalho@cs.technion.ac.il
born in:	Israel, January, 1987
Marital Status:	Married with 5 children

Education

2011- 2017 Ph.D. Computer Science,
Technion, Israel Institute of Technology, Haifa, Israel.
Direct Track from June 2014, Average grade 93
Date of M.Sc. receipt: September 2014
Date of Ph.D. receipt: December 2017
Advisors: Assistant Prof. Eitan Yaakobi and Prof. Tuvi Etzion
Dissertation: Coding Schemes for Non-Volatile Memories

2006-2009 B.Sc. in Mathematics and Computer Science,
The Open University of Israel, Ra'anana, Israel.
Graduated cum laude, Average grade 94

2006-2009 Teaching Certification - Mathematics
Seminar Haifa, Israel
Cum laude, Average grade 97

Professional Experience

October 2017 - Present — Researcher
The Galilee Research Institute - Migal, Upper Galilee – Israel

October 2017 - Present — Lecturer
Computer Science Department,
Tel-Hai College, Upper Galilee – Israel

Summer 2016, Summer 2015 — Research Intern at Yahoo! Labs, Haifa Israel.
Part of mail Team.
Worked on improvement mail search and auto-completion of queries, using tools of machine learning, data mining and information retrieval.

Aug 2007 - Feb 2011 — Software developer in Mind CTI at Yokneam, Israel
Mind CTI is a leading global provider of real-time mediation, rating, billing and customer care solutions for services.
Developing in Java (J2ee, Java beens, JSP), Web Services, XML, XSD, Databases and transactions, and variety of frameworks.

Teaching Experience

Winter 2017/2018 - Present — Lecturer
Computer Science Department,
Tel-Hai College, Upper Galilee – Israel
Courses: "Discrete Mathematics", "Automata and Formal Languages", "Object Oriented Programming - Java", "Introduction to Algorithms"

Spring 2017 — HW Checker
"Introduction to network coding, bounds and constructions"
Computer Science Department,
Technion, Israel Institute of Technology

Winter 2011/2012-Spring 2017 — Teaching Assistant (partially in charge)
"Automata and Formal Languages"
Computer Science Department,
Technion, Israel Institute of Technology
Summer 2012, Spring 2015-present: T.A. in charge

Winter 2014/15, 2013/14 — Teaching Assistant
"Discrete Mathematics"
Industrial Engineering and Management Department,
Technion, Israel Institute of Technology

Advanced Courses Taken

Practical courses	Object-Oriented Programming
	Software Design
	Managing Data on the World-Wide Web
Theoretical courses	Modern Cryptology
	Coding Theory
	Information Theory
	Approximation Algorithms, Online algorithms
	Distributed Algorithms
	Algebraic Methods in CS and Combinatorics, Combinatorial Designs

Honors

Spring 2016	Excellent Teaching Assistant Prize
2016	Jacobs Excellence Scholarship. Ph.D. studies
2015	Gutwirth Excellence Scholarship. Ph.D. studies
Winter 2014/15	Excellent Teaching Assistant Prize
Winter 2014/15	Benin Scholarship. Ph.D. studies
Winter 2013/14	Excellence Scholarship Faculty. M.Sc. studies
2009	Teaching Certification - Mathematics, cum laude. average grade 97. Seminar Haifa, Israel
2009	B.Sc. in Computer Science and Mathematics, Graduated cum laude. average grade 94. The Open University Israel.
2009	President Excellence, The Open University of Israel. B.Sc. studies
2007	Dean Excellence, The Open University of Israel. B.Sc. studies
2006	President Excellence, The Open University of Israel. B.Sc. studies

Publications

Journal Papers

[J1] M. Horovitz and T. Etzion, "Local Rank Modulation for Flash Memories", submitted to *IEEE Transactions on Information Theory*, vol. 65, no. 3, pp. 1705-1713, March 2019.

[J2] M. Horovitz and E. Yaakobi, "Reconstruction of Sequences over Non-Identical Channels" submitted to *IEEE Transactions on Information Theory*, vol. 65, no. 2, pp. 1267-1286, February 2019.

[J3] M. Horovitz and E. Yaakobi, "On the Capacity of Write-Once Memories", *IEEE Transactions on Information Theory*, vol. 63, no. 8, pp. 5124-5137, August 2017.

[J4] M. Horovitz and T. Etzion, "Constructions of Snake-in-the-Box Codes for Rank Modulation", *IEEE Transactions on Information Theory*, vol. 60, no. 11, pp. 7016-7025, November 2014.
Presented at *Information Theory and Application Workshop*, San Diego, California, February 2014.

Peer-Reviewed Conference Papers

[C1] Y. M. Chee, M. Horovitz, A. Vardy, V. K. Vu, and E. Yaakobi, "Endurance-Limited Memories with Informed Decoder", *IEEE Information Theory Workshop*, Visby, Gotland, Sweden, August, 2019, To appear

[C2] M. Horovitz, E. Yaakobi, E. En Gad, and J. Bruck, "Iterative Programming of Noisy Memory Cells", *IEEE Information Theory Workshop*, Visby, Gotland, Sweden, August,

2019, To appear

[C3] Y. M. Chee, M. Horovitz, A. Vardy, V. K. Vu, and E. Yaakobi, "Codes for Endurance-Limited Memories", *IEEE International Symposium on Information Theory and Applications*, pp. 501-505, Singapore, October, 2018.

[C4] M. Horovitz, L. Lewin-Eytan, A. Libov, Y. Maarek, and A. Raviv, "Mailbox-Based vs. Log-Based Query Completion for Mail Search", *the 40th International ACM SIGIR conference on Research and Development in Information Retrieval*, pp. 937-940, Tokyo, Japan, August, 2017.

[C5] M. Horovitz and E. Yaakobi, "Reconstruction of Sequences over Non-Identical Channels", *IEEE International Symposium on Information Theory*, pp. 1510-1514, Aachen, Germany, June, 2017.

[C6] M. Horovitz and E. Yaakobi, "The Capacity of Non-Binary Write-Once Memory", *IEEE International Symposium on Information Theory*, pp. 945-949, Barcelona, Spain, July, 2016.

[C7] M. Horovitz and E. Yaakobi, "WOM Codes with Uninformed Encoder", *IEEE Information Theory Workshop*, Jerusalem, Israel, April-May 2015.

[C8] M. Horovitz and T. Etzion, "Local Rank Modulation for Flash Memories", *IEEE Information Theory Workshop*, pp. 606-610, Hobart, Tasmania, Australia, October 2014.

Research Interests

Applications of discrete mathematics to problems in computer science and information theory, coding theory, and combinatorial designs. In particular, coding theory with applications to non-volatile memories and combinatorics. Machine learnings algorithms and application.

Languages

English: high level
Hebrew: mother tongue

References

Research:

Prof. Tuvi Etzion	Computer Science Department, Technion, Israel etzion@cs.technion.ac.il
Assistant Prof. Eitan Yaakobi	Computer Science Department, Technion, Israel yaakobi@cs.technion.ac.il

Teaching:

Prof. Shmuel Zaks	Computer Science Department, Technion, Israel zaks@cs.technion.ac.il
Prof. Michael Kaminski	Computer Science Department, Technion, Israel kaminski@cs.technion.ac.il