

Lior Rokach

CURRICULUM VITAE

• Personal Details

Name: **Lior Rokach**

Address and telephone number at work:

Department of Software and Information Systems Engineering
Faculty of Engineering Sciences, Ben-Gurion University of the Negev
P.O.B. 653, Beer-Sheva, Israel 84105.

Home-Page: <http://www.ise.bgu.ac.il/faculty/liorr/>

Email: liorrk@bgu.ac.il

• Education

B.Sc.	1994 to 1998	Tel-Aviv University, Israel Department of Industrial Engineering Under the special program for outstanding students. (התוכנית החד-תחומית לתלמידים מצטיינים) Graduated 1 st in class with 97.7 points average (out of 100)
Summa Cum Laude		
M.Sc.	1997 to 1999	Tel-Aviv University, Israel Department of Industrial Engineering Direct M.Sc. Track Dissertation Title: "Attribute Decomposition for Classification Tasks". Advisor: Prof. Oded Maimon
Magna Cum Laude		
Ph.D.	2000 to 2004	Tel-Aviv University, Israel Department of Industrial Engineering Dissertation Title: "Decomposition Methodology in Data Mining". Advisor: Prof. Oded Maimon

• Employment History

In Academic Institutes:

- July.2014- **Ben-Gurion University of the Negev,**
 Dep. of Information Systems Eng.
 Position: Full Professor (Tenured)
- Dec. 2011-June 2014 Position: Associate Professor (Tenured)
- Apr.2009-Nov.2011 Position: Senior Lecturer (Tenured since June 2010)
- Oct.2005-Mar.2009 Position: Lecturer
- Mar. 2012-Oct.2012 **Penn State University,**
 College of Information Sciences and Technology
 Position: Visiting Scholar
- Oct. 1998-Sep. 2003 **Tel-Aviv University,**
Dep. of Industrial Eng.
 Position: Teaching Assistant (Part-Time)

In The Industry:

- 2004–2005 **Ness, Insurance Division, Tel-Aviv**
Position: Chief Architect
- This position includes the following responsibilities: Leading the design of large-scale IT project (70 Engineers) for the insurance division;
- 2002-2003 **MedDak Ltd. Netanya, Israel**
Position: VP R&D
- MedDak was a startup that developed information retrieval and business intelligence systems for the Healthcare and the Insurance industry. Held full responsibility for leading a small R&D Team, designing the product architecture, developing the main algorithms. Meddak was part of the Target Innovation Center, a high technology incubator funded by the Chief Scientist and a group of well known, prominent investors from Israel and overseas
- 1999-2001 **Kamoon. Inc.**
Position: Founder & Chief Technology Officer, Member of the Board of Directors
- Kamoon developed Tacit Knowledge Management (TKM) software enabling organizations to maximize employees' know-how and expertise by matching requestors to the right expert, facilitating and capturing the interaction process, and measuring the process for continuous improvement. Kamoon has received funding of totally \$25 million from Patricof & Co. Ventures and its global network Apax Partners, XDL Intervest Capital, and BRM Group.

1997-1999 **Demantra (Acquired by Oracle)**
Position: Software Engineer and then Algorithms Team Leader

Leading research and development of advanced quantitative time-series algorithms in Matlab. Demantra is a software development company specializing in solutions in the Supply Chain Planning market. The Company develops and delivers decision support and planning systems to the industrial and commercial markets.

1994-1997 **Radlinx Ltd (Rad Group, Acquired by VocalTech)**
Position: Software Engineer in Part Time Job.

Developed networking components. The main programming language used was C and C++ on Unix platform.

1991-1994 **Army Service, Israel Defense Force**
Intelligence Corps (Unit 8200)

• Professional Activities

Positions in academic administration

2014-	Chairman of the Faculty's Teaching Committee, Faculty of Engineering, Ben-Gurion University
2012-2014	Member of the Faculty's Teaching Committee, Faculty of Engineering, Ben-Gurion University
2012-2014	Chairman of the Department's Committee for Graduate Studies, Department of ISE, Ben-Gurion University
2012-	Member of the Department's appointments and promotions committee, Department of ISE, Ben-Gurion University
2013-	Member of the Department's Curriculum committee
2011-2012	Chairman of the Department's Teaching Committee of the Undergraduate Program, Department of ISE, Ben-Gurion University
2008-2011	Coordinator of research seminar, Department of ISE, Ben-Gurion University
2009-2010	Responsible for the department web-site, Department of ISE, Ben-Gurion University

Editor or member of editorial board of scientific or professional journal

1. Information Fusion (published by Elsevier). Role: Area Editor - "Machine Learning and Pattern Recognition", From: 2014.
2. Pervasive and Mobile Computing, Role: Guest Editor, Special issue on Mobile Security and Forensics (with Kim-Kwang Raymond Choo and Claudio Bettini)
3. Information Sciences (published by Elsevier). Role: Guest Editor, Special Issue: Data Mining for Information Security (with Prof. Yuval Elovici, BGU and Prof. Sahin Albayrak, TU Berlin). 2012-2013.
4. Progress in Artificial Intelligence (published by Springer). Role: Associate Editor. From: January 2011.
5. The Scientific World Journal. Role: Associate Editor, From October 2013 to August 2016.
6. International Journal of Data Analysis Techniques and Strategies, From: October, 2007 to October, 2008.
7. International Journal of Data Mining, Modeling and Management, From: October, 2008 to October, 2009.
8. Journal of Advanced Research in Statistics and Probability, From: February 2009 to January 2011.

Ad-hoc reviewer for journals (Sorted Alphabetically)

- ACM Computing Surveys
- ACM Transactions on Intelligent Systems and Technology
- ACM Transactions on Interactive Intelligent Systems
- AI Communication
- Annals of Information Systems
- Artificial Intelligence in Medicine
- Computational Intelligence
- Computational Statistics & Data Analysis
- Computers and Mathematics with Applications
- Computers in Biology and Medicine
- DSS

- Data Mining and Knowledge Discovery
- Data and Knowledge Engineering
- Digital Signal Processing
- Entropy
- ETRI Journal
- Expert Systems with Applications
- IEEE Intelligent Systems
- IEEE Transactions on Cybernetics
- IEEE Transactions on Dependable and Secure Computing.
- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on SMC-Part A
- IEEE Transactions on SMC-Part C
- Information Sciences
- Intelligent and Fuzzy Systems
- International Journal of Pattern Recognition and Artificial Intelligence
- International Journal of Production Economics
- International Journal of Production Research
- Integrated Computer-Aided Engineering
- Journal of Artificial Intelligence Research
- Journal of Autonomous Agents and Multi-Agent Systems
- Journal of Intelligent Manufacturing
- Journal of Machine Learning Research
- Journal of Systems and Software
- Journal of Zhejiang University-SCIENCE A
- Journal of the American Society for Information Science and Technology (JASIST)
- Knowledge and Information Systems
- Machine Learning
- NeuroComputing
- Optimization and Engineering
- Pattern Analysis and Applications
- Pattern Recognition
- PLOS One
- Scientometrics
- Soft Computing
- WIREs Data Mining and Knowledge Discovery

Chairing and organizing

1. Co-organizer of ACM RecSys 2016 Workshop: Deep Learning for Recommender Systems (DeepRec), Haggai Roitman, Oren Sar-Shalom, Bracha Shapira, Alexandros Karatzoglou, Domonkos Tikk, Balazs Hidasi
2. Co-chair of "Data Mining for Business Intelligence" (with M. Last and B. Shapira), April, 2016 at Ben-Gurion University of the Negev.
3. Co-organizer of ACM RecSys Challenge 2015, (With David Ben-Shimon, Michael Friedmann, Alexander Tsikinovsky, Johannes Hörle and Bracha Shapira)
4. Co-chair of "Data Mining for Business Intelligence" (with M. Last and B. Shapira), April, 2015 at Ben-Gurion University of the Negev.
5. Co-chair of the workshop "Advances in recommender systems – social media and semantics in recommender systems", (with B. Shapira and Z. Kuflik), Haifa, June 16-17 2015.
6. Workshops Co-Chair of ACM Recommender Systems 2014 (with Badrul Sarwar)
7. Co-chair of "Data Mining for Business Intelligence" (with M. Last and B. Shapira), April 24, 2014 at Ben-Gurion University of the Negev.
8. Co-chair of Workshop on Computational Scientometrics in ACM CIKM 2013 (with Cornelia Caragea, C. Lee Giles and Xiaozhong Liu), October 27 to November 1, 2013 at San Francisco, CA, USA.
9. Co-chair of Special Track in 29th ACM Symposium on Applied Computing on Recommender Systems (with Bracha Shapira and Francesco Ricci), March 24 - 28, 2014, Gyeongju, Korea.
10. Co-chair of Special Track in 28th ACM Symposium on Applied Computing on Recommender Systems (with Prasenjit Mitra, and Yehuda Koren), Coimbra, Portugal March 18 - 22, 2013.
11. Co-chair of Workshop on Computational Scientometrics: Theory and Applications (with Cornelia Caragea, C. Lee Giles and Vetle I. Torvik) as part of iConference 2013, February 12, 2013, Dallas Fort Worth, TX.
12. Co-chair of "Ubiquitous User Modeling Workshop" (with B. Shapira and Z. Kuflik), April 10 –11, 2013, University of Haifa and Ben Gurion University of the Negev.
13. Co-chair of "Data Mining for Business Intelligence - Bridging the gap" (with M. Last and B. Shapira), March 7, 2013 at Ben-Gurion University of the Negev.
14. Co-chair of the machine ensembles session in ESANN'2012 (with Aníbal R. Figueiras-Vidal), Bruges (Belgium), 25 - 27 April 2012
15. ICML MLD'10 panelist, Haifa, Israel.
16. Session Chair: ATDM 2006 workshop, 4th Atlantic Web Intelligence Conference.

Program Committee Member:

1. Senior Program Committee Member: ACM Recommender Systems – 2016
2. Program Committee Member: ACM KDD – 2016
3. Program Committee Member: WWW 2016
4. Program Committee Member: 11th International Conference on Availability, Reliability and Security (ARES and CD-ARES), Salzburg, Austria, August 29 – September, 2, 2016
5. Program Committee Member: Data Mining for Cyber Security - A workshop organized in association with ICDM'2016
6. Senior Program Committee Member: ACM Recommender Systems – 2015
7. Program Committee Member: ACM KDD – 2015
8. Program Committee Member: 3rd Workshop on Large-Scale Recommender Systems 2015
9. Program Committee Member: UMAP – 2015

10. Senior Program Committee Member: ACM Recommender Systems – 2014
11. Program Committee Member: ACM KDD – 2014
12. Program Committee Member: UMAP – 2014
13. Program Committee Member: IEEE SocialInformatics 2014
14. Program Committee Member: ACM KDD 2013
15. Program Committee Member: IJCAI 2013
16. Program Committee Member: ACM Recommender Systems – 2013
17. Program Committee Member: ESANN 2013
18. Program Committee Member: MCS 2013
19. Program Committee Member: 4th International Workshop on Social Recommender Systems, in conjunction with WWW 2013
20. Program Committee Member: ECML 2013 workshop on "Solving Complex Machine Learning problems with Ensemble Methods"
21. Program Committee Member: Human-Computer Interaction & Knowledge Discovery (HCI-KDD) @ CD-ARES'13
22. Program Committee Member: SouthCHI 2013 - International Conference on Human Factors in Computing & Informatics
23. Program Committee Member: Principles of Diagnosis (DX-2013)
24. Program Committee Member: CIKM 2012
25. Program Committee Member: ICPRAM 2013
26. Program Committee Member: ACM Recommender Systems – 2012
27. Scientific Board Member: HCI & Knowledge Discovery at AMT 2012
28. Program Committee Member: ACM RecSys Doctoral Symposium program – 2012
29. Program Committee Member: IEEE Intern. Conference on Social Informatics 2012
30. Senior Program Committee Member: IEEE SocialCom 2012
31. Advisory Board Member of IEEE GrC2012
32. Program Committee Member: CIP 2012
33. Program Committee Member: ICPRAM 2012
34. Program Committee Member: 12th I2CS 2012
35. Program Committee Member: ACM KDD 2011
36. Program Committee Member: ACM Recommender Systems – 2011
37. Program Committee Member: 11th I2CS 2011
38. Program Committee Member: CYBERLAWS 2011
39. Machine Intelligence Research Labs - a global non-profit academic consortium
40. Program Committee Member: ACM Recommender Systems - 2010
41. Program Committee Member: 12th ER 2010
42. Program Committee Member: 10th I2CS 2010
43. Program Committee Member: CYBERLAWS 2010
44. Program Committee Member: 9th I2CS 2009
45. Program Committee Member: Foundation of Data Mining Workshop (ICDM 2008)
46. Program Committee Member: IRMA, Vancouver, 2007.

Technical Reviewer for Book Publishers:

- McGraw-Hill
- Springer
- World Scientific Publishing
- IDEA group publishing
- Open University Press (Israel)

Funding agencies reviewing

1. Israel Science Foundation (ISF)

2. United States-Israel Binational Science Foundation (BSF)
3. The German Israeli Foundation (GIF)
4. Israeli Ministry Science and Technology (MOST)
5. Pazi Foundation (a joint foundation of UPBC and IAEC).
6. The Netherlands Organization for Scientific Research (NWO)
7. National Research Fund (FNR) of Luxembourg
8. The Portuguese Foundation for Science and Technology (FCT)
9. Romanian National Council for Innovation and Development

• Educational activities**Courses taught**

- Databases Systems – Undergraduate – Ben-Gurion Univ. and Tel-Aviv Univ
- Advanced Databases – Undergraduate – Ben-Gurion Univ.
- Massive Data Mining – Graduate – Ben-Gurion Univ.
- Distributed Databases – Undergraduate - Ben-Gurion Univ.
- Simulation – Undergraduate - Ben-Gurion Univ. and Bar-Ilan Univ.
- Machine Learning - Graduate – Ben-Gurion Univ.
- Pattern Recognition - Undergraduate – Ben-Gurion Univ.
- Knowledge Acquisition- Graduate – Ben-Gurion Univ.
- Expert Systems and Knowledge Based Systems - Graduate – Ben-Gurion Univ.
- Data Warehousing – Undergraduate - Ben-Gurion Univ. and Tel-Aviv Univ.
- Advanced Systems Analysis and Design – Graduate – Tel-Aviv Univ.
- Operating Systems – Undergraduate - Tel-Aviv Univ.
- Data Structures– Undergraduate - Tel-Aviv Univ.
- E-Commerce - Undergraduate – Ben-Gurion Univ and Bar-Ilan Univ.
- Operation Research – Undergraduate - Tel-Aviv Univ.
- Data Analysis – Undergraduate - Tel-Aviv Univ.
- Operation Management – Graduate – Open University
- Introduction to Information Systems – Executive MBA - Hebrew Univ.

Research students**Ph.D. Students**

- Lena Tenenboim, Multiple Label Classification, Graduated 2012, (with B. Shapira)
- Eitan Menachem, Active Security of Distributed Systems, Graduated 2013, (with Y. Elovici)
- Lihi Namani, Multi-Agent Voting, Graduated (with B. Shapira and M. Kalech)
- Daniel Gordon, Anomaly detection in time series, Graduated (With D. Handler)
- Nir Ofek, Sentiment Analysis, Dissertation Submitted
- David Ben-Shimon, Anytime algorithms for recommender systems, Dissertation Submitted (with B. Shapira)
- Eli Khalastchi, Anomaly detection, Proposal approved (with Meir Kalech), awardee of IBM Ph.D. Fellowship
- Sigal Elnkave, Geospatial Data Mining
- Victor Makarenkov, Automatic Proofreading (with B. Shapira)
- Edita Grolman, Scalable Transfer Learning Cross-Domain Recommendation Systems (with B. Shapira)

M.Sc. Students (with Thesis)

- Dmitry Getsels , M.Sc., Preferences Elicitation for Stereotype-Based Recommender Systems Using Analytical Hierarchal Procedure, Graduated 2007.
- Eitan Menachem , M.Sc., Troika – New Classifiers Ensemble Scheme for Risk Weighting, Graduated 2008 (with Y. Elovici)
- Lihi Namani, M.Sc., Cost Sensitive Active Learning of Decision Trees, Graduated 2008 (with A. Shmilovici)
- Lior Sapir , M.Sc., A Methodology for Fuzzy Data Warehousing, Graduated 2008 (with A. Shmilovici)
- Slava Kisilevich , M.Sc., New approach for achieving k-anonymity in privacy preserving data mining, Graduated 2009 (with B. Shapira, Y. Elovici)
- Nissim Matatov , M.Sc. (Tel-Aviv University), Feature Set Decomposition for Privacy Preserving Data Mining, Graduated 2009 (With Oded Maimon)
- Dan Hutter , M.Sc., Automatic discovery of the root causes for quality drift in high dimensionality manufacturing processes, Graduated 2009
- Liat Antwarg , M.Sc., Hierarchical HMM, Graduated 2010 (with B. Shapira)
- Adi Abramson , M.Sc., Authentication approaches based on Applications order and keystrokes, Graduated 2010 (with Y. Elovici)
- Ehud Itach, M.Sc., Ensemble Method for Multi-Label Classification, Graduated 2010
- Nadav Marom , M.Sc., Ensemble Methods, Graduated 2011 (with A. Shmilovici)
- Tomer Shimshon , M.Sc., Activity Based Verifications, Graduated 2011 (with Y. Elovici)
- Ariel Bar , M.Sc., Ensemble Methods for Collaborative Filtering, Graduated 2011 (with B. Shapira)
- Yael Weizz , M.Sc., Cost-Sensitive Feature Selection, Graduated 2011 (with Y. Elovici)
- Raz Wasserstein , M.Sc., Limiting disclosure of sensitive data in sequential releases of databases, Graduated 2012 (with B. Shapira)
- Shirly -Elena Freilikhman , M.Sc., Exploring Cross domain recommendation accuracy, Graduated 2012 (with B. Shapira)
- Robert Pinchevsky , M.Sc., Anomaly detection in Time Series, Graduated 2012

- Doron Oded , M.Sc., Cognitive load awareness method for continues verification of users based on their keystroke dynamics Graduated 2012 (with N. Tractinsky)
- Ma'ayan Gafny , M.Sc., Supervised Many-to-Many Record Linkage, Graduated 2012 (with Y. Elovici)
- Nasseem Biadisy , M.Sc., Transfer Learning for Content-Based Recommender Systems using Tree Matching, Graduated 2012 (with A. Shmilovici)
- Maya Ilani , M.Sc., Data Honey Pot for Leakage Detection, Graduated 2012 (with Y. Elovici)
- Amir Harel , M.Sc., Misusability for Preventing Data Leakage, Graduated 2012 (with Y. Elovici)
- Olga Peled , M.Sc., Privacy Preserving in Social Networks, Graduate 2013 (with Y. Elovici)
- Orly Moreno , M.Sc., Transfer Learning for Recommender Systems, Graduated 2013 (with B. Shapira)
- Ayelet Urieli , M.Sc., Survival Decision Trees, Graduated 2013 (with M. Kalech)
- Alexander Ostrikov , M.Sc., Using geospatial metadata to boost collaborative filtering, Graduated 2013 (with B. Shapira)
- Adi Ben-David , M.Sc., Anomaly detection, Graduated 2014 (with D. Handler)
- Ortal Tovim, M.Sc., Feature Selection for Anomaly Detection, Graduated 2014.
- Rada Fishel, M.Sc., Meta-Recommender, Graduated 2015 (with B. Shapira)
- Ido Blank , M.Sc., Keywords Extraction from Papers, Graduated 2015 (with G. Shani)
- Adi Polak, M.Sc., Anomaly Detection in Bipartite Graph with Complex Nodes, Graduated 2015.
- Eyal Machluf. M.Sc., Transfer Learning For Intrusion Detection, Graduated 2015
- Moran Beladev, M.Sc., Recommender Systems for Product Bundling, Graduated 2015 (with B. Shapira)
- Dimitri Bekerman, M.Sc., Cross-Malware detection, Graduated 2015 (with B. Shapira)
- Nofar Dali, Finding the Right Timing for Proactive Recommendations by Adopting Behavioral Patterns Using Smartphone-Sensed Context, Graduated 2015 (with B. Shapira)
- Guy Shtar , Clustering Wi-Fi Fingerprints for Indoor-Outdoor Detection, Graduated 2015, (with B. Shapira)
- Yasmin Bokobza, Harvest Leaked Information and Leakers Detection In Online Social Networks, Graduated 2015 (with B. Shapira and R. Puzis)
- Moran Hacham, M.Sc., Global Utility for CF Recommender Systems (with B. Shapira)
- Eran Feinman (with B. Shapira), Intelligent Smartphone Sensing

Postdoctoral Fellows

- Alon Schclar, Ph.D., Tel-Aviv Univ., Computer Science
- Moti Zwilling, Ph.D., Hebrew Univ., Bio-Informatics

• Awards, Citations, Honors, Fellowships

Honors, Citation Awards

1. 1995 - Tel-Aviv University, Rector's award for outstanding academic record during the 1st year of B.Sc. studies.
2. 1995 Tel-Aviv University, Faculty of Engineering Dean's award for outstanding academic record during the 1st year of B.Sc. studies.
3. 1995 –Holon Mayor Award for Undergraduate Students in Science.
4. 1996 - Tel-Aviv University, Faculty of Technology Dean's award for outstanding academic record during the 2nd year of B.Sc. studies.
5. 1997 - Tel-Aviv University, Faculty of Technology Dean's award for outstanding academic record during the 3rd year of B.Sc. studies.
6. 1998 - Tel-Aviv University, Faculty of Technology Dean's award for outstanding academic record during the 4th year of B.Sc. studies.
7. 1999 - Tel-Aviv University, Faculty of Engineering. Assistant Teacher of the year Award.
8. 2000 - Tel-Aviv University, Faculty of Engineering. Assistant Teacher of the year Award.
9. 2002 - Holon Academic Institute of Technology, Lecturer of the year Award.
10. 2003 - Tel-Aviv University, Faculty of Engineering. Lecturer of the year Award.
11. 2006 – Ben-Gurion University, Faculty of Engineering. Lecturer of the year Award.
12. 2007 – Ben-Gurion University, Faculty of Engineering. Lecturer of the year Award.
13. 2012 – Thomson Reuters Essential Science Indicators for a Highly Cited Article: *ENSEMBLE-BASED CLASSIFIERS*
14. 2012 – BGU Toronto Prize for Academic Excellence in Research: “*For significant contributions to the field of machine learning and in particular for the development of efficient ensemble learning algorithms.*”
15. 2014 - Advisor and co-author of a paper, The 11th ESWC 2014, Best Performance Award in the Sentiment Analysis Challenge

Developing and starting new laboratories

1. Laboratory of Machine Learning Systems, Ben-Gurion University

The lab hosts graduate and undergraduate students working in the lab during the academic year. The lab carries out research and projects in the broad area of machine learning and its applications, and specifically, the lab promotes innovative adaptations of machine learning methods to create the next generation of Intelligent Systems. Since its establishment in March 2006, the machine learning lab has been involved in more than two dozen research projects. Among the institutions that have funded Prof. Rokach's research are: Deutsche Telekom Co., General Motors, the Israeli Ministry of Defense (Center for Development of Means and Infrastructure), and the Israeli Ministry of Trade and Commerce.

2. Big Data Lab

The Big Data lab at Ben-Gurion University of the Negev conducts research in the area of data science. The lab is also devoted to fostering knowledge for both graduate and undergraduate students. The lab is closely affiliated with the Machine Learning Lab and the Cyber Security Lab. The Big Data Lab at BGU was established in 2013 with the generous support of Intel. It is focused on the analysis of very large datasets, especially those that arise in the application areas of web mining and cyber security. The emphasis is on developing novel, sound and theoretically-motivated algorithms for accomplishing

large-scale tasks in data mining, such as high-dimensional clustering, classification algorithms and anomaly detection.

Developing new graduate programs

Co-defining (with B. Shapira and M. Last) a new MSc program in Data Mining and Business Intelligence. Graduates of this program acquire a variety of skills required for integrating cutting edge information technologies with data analytics methods. The program offers a unique mix of courses in IT, in statistics and in machine learning. With these courses the students are able to analyze large datasets and to develop modeling solutions to support decision making. This graduate program is specifically designed to meet the abovementioned need in the Israeli industry.