Erel Segal-Halevi   2017-03-17

CURRICULUM VITAE AND LIST OF PUBLICATIONS

■■■ Personal Details

- Name: Erel Segal-Halevi
- Date and place of birth: 24/04/1975, Israel
- Regular military service: 1998–2004
- Home address and phone: Ben-Gamla 17B, Hod-Hasharon, 4532223, 09-7431290

■■■ Education

1993–1997 **B.Sc. Computer Engineering**, *Technion*, grade 97.2.

1997–1999 **M.Sc. Computer Science**, *Technion*, grade 94.
Advisor: Prof. Alon Itai.
Thesis: Morphological Analyzer for Unvocalized Modern Hebrew.

2004–2006 **Teaching Diploma**, *Technion, Science Education Department.*

2013–2016 **Ph.D. Computer Science**, *Bar-Ilan University.*
Advisors: Prof. Yonatan Aumann and Dr. Avinatan Hassidim.
Thesis: Fair Division of Land.

■■■ Employment History

2017 **Researcher and Software Developer (20% position)**, *Dicta.*
Developing text-analysis tools for digital humanities. `http://dicta.org.il`.

2014–2017 **Research Assistant**, *Bar-Ilan University.*
Advisors: Prof. Yonatan Aumann and Dr. Avinatan Hassidim.
Projects: Double Auctions and Repeated Games.

2011–2013 **Research Assistant**, *Bar-Ilan University.*
Advisors: Prof. Sarit Kraus and Prof. Ido Dagan.
Project: NegoChat - automated agents negotiating with humans in English.

2010 **Teaching Assistant**, *Jerusalem College of Technology (JCT).*

2007–2010 **Algorithm Developer**, *TROS.*
a startup company that developed a patented algorithm for calculating trust in social networks and implemented it in a dating website.

2004–2006 **Freelance website builder**.

1999–2004 **Senior Academic Officer**, *MMDS - IAF Software Unit.*
Participated in developing a real-time system based on statistical data-fusion algorithms. In 2000 the system won the IAF commander prize.

1997–1999	**Teaching Assistant**, *Technion*.
Technologies	I am experienced in various programming languages and technologies, including: C++, Java, Perl, Python, PHP, MySQL, CSS, Javascript, Node.js, NetLogo, SageMath and Matlab. See http://erelsgl.github.io/pages/en/code/ for details.

Professional Activities

(b) Professional functions outside universities/institutions

2017	**Referee for Mathematical Social Sciences Journal (MSS)**.
2016–2017	**Referee for Artificial Intelligence Journal (AIJ)**.
2015	**Referee for Annals of Mathematics and Artificial Intelligence (AMAI)**.
2017	**Subreviewer for WWW conference.**.
2016	**Subreviewer for EC conference.**.
2016	**Subreviewer for COMSOC conference.**.
2016	**Subreviewer for SAGT conference.**.
2015	**Subreviewer for SODA conference.**.

(f) Membership in professional/scientific societies

2017	Econometric Society, `http://www.econometricsociety.org`
2016	Game Theory Society, `http://www.gametheorysociety.org`
2014	Econometric Society, `http://www.econometricsociety.org`

Educational Activities

(a) Courses taught

2010	**C++ workshop**, *for undergrads*, JCT, TA under Dr. Hanni Nadler.
2010	**Automata and formal languages**, *for undergrads*, Jerusalem College of Technology (JCT), TA under Dr. Ehud Conley. Teaching-grade 9.64.
2010	**Data Structures**, *for undergrads*, JCT, TA under Dr. Rina Azulay. Teaching-grade 9.17.
1997–1999	**Discrete Math**, *for undergrads*, Technion, TA under Prof. Tovi Etzion.

Honors

(a) Citation awards

2000	Israeli Air Force commander prize for software system development.
1993–1997	Technion B.Sc. summa cum laude
1996	Knesset (Israeli parliament) award for excellent undergraduate students

(b) Fellowships

2015–2016	Mordecai and Monique Katz Graduate Fellowship, $\approx$ \$10000
2013–2016	Bar-Ilan President Doctoral Fellowships of Excellence, $\approx$ \$50000
2013–2014	Nitzotzot Shachar, Inter-disciplinary Seminar on Tora and Science, $\approx$ \$5000
1998–1999	Technion M.Sc. Excellence Scholarship
1993–1997	Technion Outstanding Excellence Program

Google-Scholar Publication Metrics

h-index: 7

Total number of citations: 124

Authored books

(b) Other books

2009   Erel Segal-Halevi. *Proverbs - a practical commentary -* ‫סגולות משלי‬ . Lulu publishing. citations: *N/A*

(d) Refereed book chapters

2015   Inon Zuckerman, Erel Segal-Halevi, Avi Rosenfeld, and Sarit Kraus. First Steps in Chat-Based Negotiating Agents. In *Next Frontier in Agent-based Complex Automated Negotiation*, volume 596 of *Studies in Computational Intelligence*, pages 89–109. Springer Japan. citations: 7 , preliminary version appeared in refereed international workshop on Agent-based Complex Automated Negotiations (ACAN 2013)

Articles

(a) Refereed articles and refereed letters in scientific journals

2017   Erel Segal-Halevi, Shmuel Nitzan, Avinatan Hassidim, and Yonatan Aumann. Fair and Square: Cake-Cutting in Two Dimensions. *Journal of Mathematical Economics (accepted)*, .28–70:1 impact: 0.434 , citations: 6 , preliminary version appeared in European Conference on Computational Geometry (EuroCG 2016)

2016   Erel Segal-Halevi, Avinatan Hassidim, and Yonatan Aumann. Demand-flow of agents with gross-substitute valuations. *Operations Research Letters*, .760–44:757 impact: 0.627 , citations: 1

2016   Erel Segal-Halevi, Avinatan Hassidim, and Yonatan Aumann. Waste Makes Haste: Bounded Time Algorithms for Envy-Free Cake Cutting with Free Disposal. *ACM Transactions on Algorithms (TALG)*, 13(1):1–.32 impact: 0.776 , citations: 14

2016   Avi Rosenfeld, Inon Zuckerman, Erel Segal-Halevi, Osnat Drein, and Sarit Kraus. NegoChat-A: a chat-based negotiation agent with bounded rationality. *Autonomous Agents and Multi-Agent Systems*, 30(1):60–81. impact: 1.417 , citations: 24

2013   Erel Segal-Halevi. The Jubilee Algorithm - a procedure for gradual land division אלגוריתם היובל - תהליך הדרגתי לחלוקת נחלות בימינו . *בד"ד - BDD*, *Bar-Ilan University Press*, 81:28–104. impact: *N/A* , citations: *N/A*

2013   Erel Segal-Halevi. Land division and Jubilee since the wake of Zionism to our time - מצוות חלוקת הנחלות והיובל מראשית הציונות ועד ימינו . *Akdamot - אקדמות* , *Bet Morasha Press*, 15:28–44. impact: *N/A* , citations: *N/A*

2011   Erel Segal-Halevi. Emotional Intelligence in the Book of Proverbs - אינטליגנציה רגשית בספר משלי . *בד"ד - BDD* , *Bar-Ilan University Press*, 25:59–70. impact: *N/A* , citations: *N/A*

(c) Unrefereed professional articles and publications

2012–2017   Wikipedia: above 100 articles in various topics related to economics and computation. `https://en.wikipedia.org/wiki/User:Erel_Segal`

Lectures and Presentations in Conferences

(b) Highly-refereed conference papers

(not including conference versions of book-chapters and journal papers)

2016   Erel Segal-Halevi, Avinatan Hassidim, and Yonatan Aumann. SBBA: A Strongly-Budget-Balanced Double-Auction Mechanism. In *Proceedings of the Symposium on Algorithmic Game Theory (SAGT-2016)*, pages 260–272. citations: 1

2015   Erel Segal-Halevi, Avinatan Hassidim, and Yonatan Aumann. Waste Makes Haste: Bounded Time Protocols for Envy-Free Cake Cutting with Free Disposal. In *The 14th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2015)*, pages 901–908. citations: 12

2015   Erel Segal-Halevi, Avinatan Hassidim, and Yonatan Aumann. Envy-Free Cake-Cutting in Two Dimensions. In *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI-2015)*, pages 1021–1028. citations: 13

2014   Avi Rosenfeld, Inon Zuckerman, Erel S. Halevi, Osnat Drein, and Sarit Kraus. NegoChat: A Chat-based Negotiation Agent. In *Proceedings of the International Conference on Autonomous Agents and Multi-agent Systems (AAMAS-2014)*, pages 525–532, Richland, SC. citations: 19

2013	Eyal Shnarch, Erel Segal-Halevi, Jacob Goldberger, and Ido Dagan. PLIS: a Probabilistic Lexical Inference System. In *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (ACL-2013): System Demonstrations*, pages .102–97 citations: 1
2013	Inon Zuckerman, A Rosenfeld, Sarit Kraus, and E Segal-Halevi. Towards automated negotiation agents that use chat interfaces. In *The sixth international workshop on agent-based complex automated negotiations (ACAN)*. citations: 6
2003	Alon Itai and Erel Segal-Halevi. A Corpus Based Morphological Analyzer for Unvocalized Modern Hebrew. In *Proceedings of Machine Translation for Semitic Languages: Issues and Approaches, Workshop at MT Summit IX (MT-SUMMIT-IX)*. citations: 12

(c) Lightly-refereed conferences/meetings

2016/07	World Congress of the Game Theory Society (GAMES-16), Netherlands
2016/06	Dagstuhl Seminar 16232 on Fair Division, Dagstuhl Schloss, Germany
2016/04	European conference on Computational Geometry (EuroCG-16), Swiss

(c) Presentations at informal international seminars

2016/05	Israeli Game-Theory Day, Tel-Aviv University, Israel
2015/05	Bar-Ilan Symposium on the Foundations of Artificial Intelligence, Israel
2015/05	Israeli Game-Theory Day, Tel-Aviv University, Israel
2013/07	Israeli Speech Processing Conference, Afeka College, Tel-Aviv, Israel

(d) Seminar presentations at universities and institutions

2017/02	Information Systems Department Seminar, Haifa University
2017/01	Computer Science Department Seminar, Ariel University
2017/01	Economic Theory Seminar, Hebrew University of Jerusalem
2016/11	Lunchtime Seminar, Adam Smith Business School, Glasgow
2016/09	Game Theory Seminar, Corvinus University, Budapest
2016/05	Information Systems Department Seminar, Ben-Gurion University
2016/03	Industrial Engineering Department Seminar, Ariel University
2015/11	Computational Geometry Seminar, Tel Aviv University
2015/10	Computer Science Department Seminar, Technion
2015/05	Industrial Engineering Department Seminar, Technion
2014/03	Rationality Center Seminar, Hebrew University of Jerusalem
2014/03	Game Theory Seminar, Bar-Ilan University

Patents

2013   Tuvia Rosenthal, Erel Segal-Halevi, and Erez Segal. Us patent 8364605: Calculating connectivity, social proximity and trust level between web users. citations: 6

Present Academic Activities

(a) Research in progress

2017–   Fair Item Allocation based on Diminishing Differences. With Avinatan Hassidim and Haris Aziz.

2017–   Consensus and stable social choice. With Shmuel Nitzan and Mor Nitzan.

2017–   Fair division of fat convex objects. With Laszlo Kozma.

2016–   Monotonicity in connected cake-cutting. With Balazs Sziklai.

2016–   Cake-cutting with negative utilities. With Herve Moulin and Oleg Musin.

2016–   Concentration bounds on random-sets. With Avinatan Hassidim.

2016–   Repeated games with risk-averse players. With Yonatan Aumann.

(b) Papers to be published

2016   Arseniy Akopyan and Erel Segal-Halevi. Cutting a Cake without Harming the Toppings. *Submitted to SIAM Journal of Discrete Mathematics.* impact: 0.793 , citations: 0 , arXiv preprint 00960.1604

2016   Erel Segal-Halevi and Balázs Sziklai. Resource-monotonicity and Population-monotonicity in Cake-cutting. *Presented at GAMSOC-2015, SCW-2016 and GAMES-2016. Submitted to Games and Economic Behavior.* impact: 0.882 , citations: 2

2016   Erel Segal-Halevi and Shmuel Nitzan. Proportional Cake-Cutting among Families. *Submitted to Social Choice and Welfare.* impact: 0.593 , citations: 0

2016   Erel Segal-Halevi, Avinatan Hassidim, and Yonatan Aumann. MIDA: A Multi Item-type Double Auction mechanism. *Submitted to Theoretical Economics. Abstract submitted to EC-2017 conference.* impact: 1.732 , citations: 2 , arXiv preprint 06210.1604

Service to Community

Software   LIMDU - an open-source machine-learning framework for Node.JS. Above 400 GitHub stars and 40 forks. http://github.com/erelsgl/limdu

Website   Tanakh Navigation Site - an open website for Hebrew Bible study. Above 3000 articles. http://tora.us.fm/tnk1

References

Name	Affiliation	Acquaintance	E-mail
Yonatan Aumann	BIU, Computer Science	Ph.D. advisor	aumann@cs.biu.ac.il
Avinatan Hassidim	BIU, Computer Science	Ph.D. advisor	avinatan@google.com
Sarit Kraus	BIU, Computer Science	Employer	sarit@umiacs.umd.edu
Shmuel Nitzan	BIU, Economics	Advisor	shmuel.nitzan@biu.ac.il
Herve Moulin	Glasgow U, Economics	Collaboration	herve.moulin@glasgow.ac.uk

Additional and non-academic references will be given on request.

Teaching evaluation from my latest TA position is available in my teaching statement.