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# **Research Interest:**

Multi agent systems; auctions; machine learning; distributed learning; reinforcement learning; probabilistic models; game theory, intelligent tutoring systems, Internet research.

# **Education:**

### PhD.

1997-2001: <u>Bar Ilan University</u>, <u>Computer Science</u>. Thesis title - "Protocols, Strategies and Learning Techniques for Reaching Agreements More Effectively". Advisor: Prof. Sarit Kraus.

### M.Sc.

1995-1997: <u>Bar Ilan University</u>, <u>Computer Science</u>. Thesis title - "Negotiation about Data Allocationg in Distributed Systems " *Summa Cum Laude*. (thesis grade 98, average course grade 97). Advisor: Prof. Sarit Kraus.

#### B.A. 1992-1995: <u>Bar Ilan University</u>, Economics and <u>Computer Science</u> *Summa Cum Laude* (average course grade 97).

# **Volunteer Experience:**

1991-2: Yad Sarah Organization, Jaffa, lending medical equipment.

# **Publications:**

### **Journal Papers**

R. Azoulay, E. David, M. Avigal, and D. Hutzler, **The impact of learning software on improving reading comprehension skills**, International Journal of e-Education, e-Business, e-Management and e-Learning, Number 3 Volume 10 Number 3, 2020.

O. Rozenblit, Y. Haddad, Y. Mirsky, R. Azoulay, Machine Learning Methods for SIR Prediction in Cellular Networks, Physical Communication, 2018.

R. Azoulay and E. David, 2017, Auction Mechanisms for Preference Driven Ad Exchanges, Multiagent and Grid Systems 13 (3), 203-236, 2017.

R. Azoulay, R. Katz and S. Kraus, Efficient Bidding Strategies for Cliff-Edge **Problems**, *Autonoumous Agents and Multi-Agent systems*, 28 (2), 290-336, 2014.

R. Azoulay and E. David, **Truthful and Efficient Mechanisms for Website Dependent Advertising Auctions**, Multiagent and Grid Systems, <u>28</u>(2): 290-336 2014.

E. David and R. Azoulay-Schwartz, **Optimal Mechanisms for Multi-Attribute English Auctions**, *Advancements and Developments in Applied Mathematics* Vol 1 2012, issue 2 March, p. 41-80.

R. Azoulay and J. Bar-Ilan, A Map of Non-Profit Organization Websites in Israel, *Journal of the American Society for Information Science*, 2011.

R. Azoulay-Schwartz and D. Dor, The Impact of Available Information on Negotiation Results, Annals of Mathematics and Artificial Intelligence, 2011, Vol. 60, Issue 3

E. David, R. Azoulay-Schwartz, and S. Kraus, **Bidding in Sealed-bid and English Multi-Attribute auctions**. *Decision Support Systems*, v.42 n.2, p.527-556, November 2006

R. Azoulay-Schwartz and S. Kraus, **Stable repeated strategies for information exchange between two autonomous agents** Artificial Intelligence 154 (1-2), 2004, 43-93.

R. Azoulay-Schwartz and S. Kraus and J. Wilkenfeld, **Exploitation vs. Exploration in Ecommerce: Choosing a Supplier in an Environment of Incomplete Information**, *International Journal on Decision Support Systems* 38(1):1-18, 2004. E. David, R. Azoulay-Schwartz and S. Kraus, *An English Auction protocol for Multi-Attributes Items*, in J. Padget, D. Parkes, N. Sadeh
O. Shehory and W. Walsh, (Eds.), Agent Mediated Electronic Commerce IV: Designing Mechanisms and Systems, *LNAI vol. 2531*, 2002, pp. 52-68.

R. Azoulay-Schwartz and S. Kraus, Negotiation on Data Allocation in Multi-Agent Environments, *Autonomous Agents and Multi-Agent Systems*, 2001.

#### **Conferences:**

Merav Allouch, Amos Azaria and Rina Azoulay, **Detecting sentences that may be harmful to children with special needs**, ICTAI 2019.

R. Azoulay and S. Reches, **UAV Flocks Forming for Crowded Flight Environments**, ICAART 2019.

R. Azoulay and E. David, Ad Placement Mechanism for Public Displays of Private Owners, ICSEE 2018.

Merav Allouch, Amos Azaria, Rina Azoulay, Ester Ben-Izchak, Moti Zwilling and Ditza A. Zachor, Automatic Detecting of Insulting Sentences in Conversation, ICSEE 2018.

Y. Mirsky, Y. Haddad, O. Rozenblit and R. Azoulay, **Predicting Wireless Coverage Maps Using Radial Basis Networks**, CCNC 2018.

R. Azoulay and E. David, **Ad Exchange: Intention Driven Auction Mechanisms** for Mediating Between Publishers and Advertisers, WI-IAT (2) 2015: 220-225.

Esther David and Rina Azoulay, (2015) It Does Matter Who I sell to and Who I Buy From: Weighted Bilateral VCG, WI-IAT (3) 2015: 126-129.

D. Hutzler, E. David, M. Avigal and R. Azoulay, Learning Methods for Rating the Difficulty of Reading Comprehension Questions, SWESTE, Israel, 2014.

R. Azoulay, E. David, D. Hutzler and M. Avigal, **Adaptation Schemes for Question's Level to be Proposed by Intelligent Tutoring Systems**, ICAART, France, 2014.

E. David and R. Schwartz, **No More Damaging Ads on Your Own Webpage -Strategy Proof Mechanisms for Ad Placement**. <u>IAT 2012</u>: 140-145 R. Azoulay-Schwartz and E. David, **Comparative Incentive Compatible Mechanisms for Site Oriented Advertising Auctions**, BISFAI 2011.

R. Azoulay-Schwartz and Z. Ilani, **Interactive Tutoring System for Intelligent use of databases**, Opening Gates in Teacher Education, Mofet, Israel, January 2011.

R. Azoulay-Schwartz and Z. Ilani, **An Intelligent Tutoring System for Efficient Usage of Database**, ITRE 2006, Proceedings of the 4th International Conference on Information Technology: Research and Education, Tel Aviv, Israel, October 2006.

D. Dor-Shifer, R. Azoulay-Schwartz and S. Kraus, **The value of Information in Negotiation with Incomplete Information**, ITRE 2006, Proceedings of the 4th International Conference on Information Technology: Research and Education, Tel Aviv, Israel, October 2006.

E. David, R. Azoulay-Schwartz and S. Kraus, **Bidders' Strategy for Multi-Attribute Sequential English Auction with a Deadline**, AAMAS 2003, Melbourne, Australia, pp 457-464.

E. David, R. Azoulay-Schwartz and S. Kraus, **The Design of the Multi-Attribute English Auction with a Deadline Vs. the eBay Auction Protocol**, AMEC 2003, Melbourne, Australia, poster version.

R. Azoulay-Schwartz and S. Kraus, Acquiring an Optimal Amount of Information for Choosing from Alternatives. CIA 2002, *best paper award*.

E. David, R. Azoulay-Schwartz and S. Kraus, **Protocols and Strategies for Automated Multi-Attributes Auctions**, Proceedings of the 1<sup>st</sup> international conference on autonomous agents and multi agent systems (AMAS02), 2002, Bologna, Italy, pp. 77-85..

R. Azoulay-Schwartz and S. Kraus, **Stable Strategies for Sharing Information among Agent**, *Proceedings of IJCAI 2001*, Seattle, Washington, *pages 1128-1134* 

R. Azoulay-Schwartz and S. Kraus, Assessing Usage Patterns to Improve Data Allocation via Auctions, *Proceedings of ICMAS 2000*, Boston, *pages 47-54*.

R. Schwartz and S. Kraus, Negotiation On Data Allocation in Multi-Agent Environments, *Proceedings of AAAI 1997*, Providence, RI, *pages 29-35*.

### **Refereed Book Chapters:**

R. Azoulay, E. David, M. Avigal and D. Hutzler, **Adaptive Task Selection in Automated Educational Software: A Comparative Study**, In Intelligent Systems and Learning Data Analytics in Online Education, Elsevier, 2020.

R. Schwartz and S. Kraus, **Bidding Mechanism for Data Allocation in Multi-Agent Environments**, In M. P. Singh and A. S. Rao and M. J. Wooldridge, editors, *Intelligent Agents IV, Lecture Notes in Artificial Intelligence*, volume 1365, *pages 61-75*. Springer-Verlag, 1998.

### **Patents:**

Yisroel A. Mirsky, Yoram Haddad, Orit Rozenblit, Rina Azoulay, Predicting Wireless Coverage Maps Using Radial Basis Networks, May 2018, USPTO provisional 62/665,552.

Rina Azoulay, Yoram Haddad, Orit Rozenblit, Machine Learning Methods for SIR Prediction in Cellular Networks, July 2018, USPTO provisional 62/701,774.

## Awards and Fellowships:

2019-2020	Magnet WIN, with Dr. Yoram Hadad.
2019	JCT Outstanding Lecturer
2017-2019	Magnet HERON, with Dr. Yoram Hadad.
2010, 2011-2019	Research foundation, JCT
2008, 2009, 2015, 2019	JCT excellence reward.
2002	CIA 2002 best paper award.
2001	IJCAI01 Travel Grant.
1998-2001	Eshkol followship (PhD studies).
1996-1998	Eshkol followship (MSc studies).
1997	AAAI97 Travel Grant.
1997, 1995, 1993	Rector's awards, Bar Ilan Univ.

# **Teaching Experience:**

2000-: Jerusalem College of Technology.

**Courses Coordinated:** Data Structures part B, Algorithms Analysis

**Courses Taught:** 

Introduction to Computing (C++, JAVA), Data Structures part A, Data Structures part B, Algorithms Analysis, Functional and Logical programming (Python, Scheme, Lisp and Prolog), Principles of Programming Languages, Parallel Algorithms.

#### 1995-2002: Bar Ilan University.

**Courses Taught:** Introduction to Computing (C++), Object Oriented Software Development, Artificial Intelligence Seminar.

#### **Courses TAed:**

Introduction to Computing (C++), Data Structures, Artificial Intelligence (Lisp).

## **Former Graduate Students:**

Dorit Hutzler, **An Intelligent Tutoring System to Improve Reading Comprehension**. (joint work with Dr. M, Avigal and Dr. E. David)

Daphna Dor-Shifer. **The Value of Information in Negotiation** (joint with Prof. Sarit Kraus), May 2004.

## **Current Graduate Students:**

Merav Allouch, Autonomous agents for assisting children with special needs.

(joint work with Dr. Amos Azaria, Ariel University).

## **Professional Activities:**

JCT committee member: Committee for teaching quality, Library committee, Research committee, Covid-19 committee. 2020: Participating in a Safe@Home Hackathon against domestic violence.

2019: Program committee, AAAI 2019.

2017: Program Committee, IJCAI 2017 Special Track on AI & Autonomy.

2011: Publicity and Publications Chair of AMEC 2011, PC for CIKM 2011.

Reviewing activities: Elsevier ColMOOC Book, PIMRC2020, AAAI2019,

IJCAI2017, Journal of Applied Logic, IJCAI16, CIKM, Artificial Intelligence

Journal, Journal of Experimental and Theoretical Artificial Intelligence, ATAL, AAAI, ATAL, CIA, ICMAS, ITS, AMEC.