

Kira Radinsky

Affiliation Director of Data Science and Israel's Chief Scientist, eBay
Visiting Scientist, Technion
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Education

2009-2012 Ph.D. in Computer Science, Technion
Research supervised by Prof. Shaul Markovitch

2007-2008 B.Sc. Computer Science, Technion, Graduated with honors (Summa Cum Laude)
Studied in the Technion Excellence program (top 1% of all Technion students)
Started my B.Sc. at age 15 (Technion gifted students program)
GPA: 93/100

Professional Experience

2016 - Present eBay, Netanya, Israel
Director of Data Science and Israel's Chief Scientist
As the chief scientist and the director of data science of eBay, we are building the next generation predictive data mining, deep learning and natural language processing solutions that will transform eCommerce.

2017 - Present Israel Securities Authority, Tel Aviv, Israel
Board Member

2016 - Present Maccabi Health Care, Tel Aviv, Israel
Board Member (Maccabi Health Data Science Institute)

2015 - Present HSBC, London, UK
Technology Board Member

2012 - 2016 SalesPredict (acquired by eBay), San Francisco, CA, USA
Co-Founder and CTO
In 2012, I co-founded SalesPredict, one of the fast-growing companies in Israel. SalesPredict has multiple international offices and global sales growing at 14x year-over-year. We are one of the main players in predictive marketing space with tangible results to our customers - more than x2 their sales conversions.
I lead the data science team, and specifically our vision of "Automatic Data Science": an ongoing effort to create a product that is completely automated without the need for an expert in the loop. In their book, Gutierrez and Peter Norvig feature my team and how we get results while keeping high scientific standards.

2009 - 2012 Microsoft Research, Redmond, WA, USA
Researcher

Leading research in the field of predictive analytics and temporal information retrieval across a diverse array of applications. My research was published in top-tier conferences and journals and selected among the best 2013 computing articles. I organized scientific tutorials and workshops and held keynotes in multiple industrial and academic conferences (Wall Street Journal conference, Strata Big Data conference, WWW, WSDM and more), and in global events, including TEDx. I co-authored over 10 patents.

Most notable product contributions:

- Bing temporal ranking - I was the technical lead from inception to deployment across the search funnel. We significantly improved search results by utilizing predictions of changing human information goals.
- TMG/ISA Anomaly detection - I initiated and lead an AI system to identify threats and attacks on organizations.

2004 - 2007 Intelligence Forces (Israel Defense Forces)
Software Engineer

Had the honor of being part of a great team that was honored by the **Israel Defense Prize** for “the development and implementation of a system that is a unique technological achievement. The system operational achievements led to far-reaching values and contribution to the country’s security”.

Research Interests

My primary research focus is on how Web Dynamics and Knowledge can help us predict future events in our world. I investigate the changes the Web undergoes with time, from such salient changes as the addition and evolution of content, to more subtle temporal dynamics of user behavior, and how these can be used to predict future population behavior. I combine this dynamics along with other World Knowledge available on the Web to build systems that feed on numerous heterogeneous resources, such as Web activity, Real-Time media and Social media, to alert about upcoming future global events. In the last couple of years, I have been focusing on applying such techniques in the medical domain and building algorithms for automatic medical discoveries and breakthroughs.

Favorite Areas: Data Mining, Natural Language Processing, Information Retrieval, Knowledge Discovery, Machine Learning and Artificial Intelligence.

Teaching Experience

- Lecturer in charge, “Deep Learning for NLP” course, 2017–2018
- Lecturer in charge, “Advanced Data Science” course (new course I designed and supervised), 2016–2017
- Lecturer in charge, “Deep Learning for NLP” course (new course I designed and supervised for graduate degrees), 2015–2016
- Teaching assistant in charge, “Search Engines Technologies and Algorithms” course, 2010–2011
- Teaching assistant in charge, “Theory of Compilation” course, 2009–2011
- Teaching assistant, “Introduction to Computer Science” course (**Best TA award**), 2007–2008

Professional Activities

Organization and Committee Activities

- Chair, General Conference, EU Data Science Conference, 2018

- Co-Chair, Big Data Track, WWW Conference, 2018
- Chair, General Conference, EU Data Science Conference, 2017
- Co-Chair, Doctoral Consortium SIGIR, 2017
- Co-Chair, Tutorials WSDM, 2016
- Co-Chair, Doctoral Consortium SIGIR, 2016
- Co-Chair, Short Paper Track ECIR , 2014
- Co-Organizer, SIGIR Workshop on Time-aware Information Access, 2013
- Co-Organizer, WSDM Tutorial on Temporal Web Dynamics and its Application to Information Retrieval, 2013
- Co-Organizer, SIGIR Workshop on Time-aware Information Access, 2012

Reviewing Activities

- **Journal Reviewer:** TWEB, TIST, Data Mining and Knowledge Discovery Journal
- **Conference Senior PC member:** WSDM'18
- **Conference PC member:** WWW'18, SIGIR'17, WWW'17, AAAI'17, WSDM'16, AAAI'16, KDD'15, WWW'15, WSDM'15, KDD'14, SIGIR'14, WWW'14, WSDM'14, SIGIR'13, WWW'13, WWW'12, AAAI'12, ACL'12

Honors & Awards

Academic

- 2016 Honorary Fellow of Afeka College of Engineering**
Afeka College of Engineering
 In recognition of Dr. Radinsky's entrepreneurial achievements and of her position as a leading inventor in her field. For the inspiration she has given to the people by harnessing advanced technologies for the benefit of society. Other receivers of the prize: Shimon Peres and Prof. Ruth Arnon.
- 2013 Best of 2013: Most Notable Article in Computer Science**
ACM Computing Reviews
 Journal article on temporal information retrieval selected as one of the most notable articles in Information Systems for 2013.
- 2013 MIT 35 Innovators Under 35**
MIT Technology Review
 Recognized by MIT Technology Review as one of the world's 35 top young innovators for accomplishments that are poised to have a dramatic impact on the world as we know it in the field of Computer Science.
- 2012 Facebook Fellowship**
Facebook
 Finalist of the Facebook Fellowship for work in the field of Data Mining, Natural Language Processing and Machine Learning.

- 2011** **Yahoo! Key Scientific Challenge Award**
Yahoo!
Recipient of the Yahoo! KSC award for work in the field of Information Retrieval, Algorithms, and Data Mining
- 2010-2012** **Google Grants**
Google
Google WWW Grant (2012), Google WSDM Grant (2011), Google SIGIR Grant (2010)
- 2009** **Google Anita Borg Prize**
Google
Recipient of the Google Anita Borg Scholarship for 20 Leading women in Computer Science.
- 2009** **Best Technion CS Academic Work**
Technion, Computer Science Department
Technion computer Science prize for best academic work
- 2007-2009** **Technion President's List award of Distinction**
Technion
Based on academic excellence I was selected repeatedly to the Technion Presidents's list
- 2008** **Best Teaching Award**
Technion
Technion award for best teacher assistant
- 2007** **Innovation in Technology Prize**
Technion
Recipient of the Technion award honoring innovations in technology
- General**
- 2017** **Israel 's brightest young women**
Globes Magazine
Recognized by the largest Israeli financial newspaper, Globes, as one of the 70 Israel 's brightest young women of all times.
- 2017** **Person of the year**
Channel 9
Recognized by channel 9 for "breaking the glass ceiling" for the Aliya from USSR.
- 2016** **Lady Globes Woman of the Year**
Globes Magazine
Recognized by the largest Israeli financial newspaper, Globes, as Woman of the Year, based on my contribution to science and business in Israel.

- 2015** **Forbes 30 under 30 Rising Stars Of Enterprise Technology**
Forbes Magazine
 Recognized by Forbes as one of the Rising Stars Of Enterprise Technology that are chosen based on their success at leading a team building tools that will change the face of business, and create profitable revenue growth.
- 2015** **Technology Pioneer Award**
Times of Israel Magazine
 Recognized by Times of Israel as one of the Israeli pioneers in Technology.
- 2014** **Israel 66th Independence Day Torch Honoree**
State of Israel
 Honored to be one of the 14 chosen for their contribution to the state of Israel, to light a torch in honor of Independence Day, as a representative of the field of science.
- 2014** **GOOD 100**
GOOD Magazine
 Recognized as one of the 2014 GOOD 100 for research in the field of predictive data mining. The GOOD 100 represent the vanguard of creative impact from around the globe. This year's list is a diverse group of artists, activists, entrepreneurs, and innovators from over 35 countries.
- 2013** **10 Female Founders To Watch**
Forbes Magazine
 Recognized by Forbes as one of 10 Female Founders To Watch Out Of Israel.
- 2013** **100 Inspiring people in Israel**
Maariv Magazine
 Recognized by Maariv Magazine as one of the 100 most inspiring people in Israel
- 2013** **40 Under 40 Promising Businesspeople in Israel**
Globes Magazine
 Recognized by Globes Magazine as one of the young promising businesspeople in Israel
- 2013** **50 Influential Women in Israel**
Globes Magazine
 Recognized by Globes Magazine as one of the influential women in Israel
- 2006** **Israel Defense Prize**
Israel Minister of Defense
 For significant contributions to the defense of the state of Israel (shared)

Graduate Students

- Galia Nordon (PhD Technion). Thesis Topic: “Mining Historical Medical Archives for Treatment Breakthroughs”. Joint Supervision with Prof. Benny Kimelfeld. 2018 – 2021 (expected)
- Guy Rosin (MSc Technion). Thesis Topic: “Learning Language Changes over Time”. Joint Supervision with Prof. Shaul Markovitch. 2017 – 2018 (expected)
- Uriel Singer (MSc Technion). Thesis Topic: “The Progression of Science over Time through the Studies of Knowledge of PPI”. 2018 – 2019 (expected)
- Tomer Golany (MSc Technion). Thesis Topic: “Deep-Learning ECG Classification using Heart Simulators”. 2018 – 2019 (expected)
- Shahar Harel (MSc Technion). Thesis Topic: “Accelerating Prototype-Based Drug Discovery using Conditional Diversity Networks”. 2018 (expected)
- Guy Elad (MSc Technion). Thesis Topic: “Generating Personality-Oriented Descriptions”. 2018 – 2019 (expected)
- Eylon Shoshan (MSc Technion). Thesis Topic: “Latent Entities Extraction: How to Extract Entities that Do Not Appear in the Text?”. 2018 – 2019 (expected)
- Aviram Magen (MSc Technion). Thesis Topic: “Learning to Rank Molecules”. 2018 – 2019 (expected)

Publications

PhD Thesis

- [1] Kira Radinsky. Learning to predict the future using web knowledge and dynamics. In *Technical Report*. Supervisor: Prof. Shaul Markovitch, Technion, 2012.

Journal Papers

- [1] Gideon Koren, Galia Nordon, Kira Radinsky, and Varda Shalev. Machine learning of big data in gaining insight into successful treatment of hypertension. *Pharmacology Research and Perspectives*, 2018.
- [2] Kira Radinsky, Krysta Marie Svore, Susan T. Dumais, Milad Shokouhi, Jaime Teevan, Alex Bocharov, and Eric Horvitz. Behavioral dynamics on the web: learning, modeling, and prediction. *ACM Trans. Inf. Syst.*, 31(3):16, 2013. **ACM 2013 Most Notable Article in Information Systems.**
- [3] Kira Radinsky, Sagie Davidovich, and Shaul Markovitch. Learning to predict from textual data. *J. Artif. Intell. Res. (JAIR)*, 45:641–684, 2012.

Refereed Conference Papers

- [1] Shahar Harel and Kira Radinsky. Accelerating prototype-based drug discovery using conditional diversity networks, 2018.
- [2] Ido Guy and Kira Radinsky. Structuring the unstructured: from startup to making sense of ebay’s huge ecommerce inventory. In *Proceedings of the 40th International ACM SIGIR Conference on Research and Development in Information Retrieval, Shinjuku, Tokyo, Japan, August 7-11, 2017*, page 1351, 2017.
- [3] Guy D. Rosin, Eytan Adar, and Kira Radinsky. Learning word relatedness over time. In *Conference on Empirical Methods in Natural Language Processing EMNLP*, 2017.
- [4] Yotam Eshel, Noam Cohen, Kira Radinsky, Shaul Markovitch, Ikuya Yamada, and Omer Levy. Named entity disambiguation for noisy text. In *SIGNLL Conference on Computational Natural Language Learning CoNLL*, 2017.
- [5] Kira Radinsky and Eric Horvitz. Mining the web to predict future events. In *Sixth ACM International Conference on Web Search and Data Mining, WSDM 2013, Rome, Italy, February 4-8, 2013*, pages 255–264, 2013.

- [6] Kira Radinsky and Paul N. Bennett. Predicting content change on the web. In *Sixth ACM International Conference on Web Search and Data Mining, WSDM 2013, Rome, Italy, February 4-8, 2013*, pages 415–424, 2013.
- [7] Kira Radinsky, Fernando Diaz, Susan T. Dumais, Milad Shokouhi, Anlei Dong, and Yi Chang. Temporal web dynamics and its application to information retrieval. In *Sixth ACM International Conference on Web Search and Data Mining, WSDM 2013, Rome, Italy, February 4-8, 2013*, pages 781–782, 2013.
- [8] Milad Shokouhi and Kira Radinsky. Time-sensitive query auto-completion. In *The 35th International ACM SIGIR conference on research and development in Information Retrieval, SIGIR '12, Portland, OR, USA, August 12-16, 2012*, pages 601–610, 2012.
- [9] Kira Radinsky, Krysta Marie Svore, Susan T. Dumais, Jaime Teevan, Alex Bocharov, and Eric Horvitz. Modeling and predicting behavioral dynamics on the web. In *Proceedings of the 21st World Wide Web Conference 2012, WWW 2012, Lyon, France, April 16-20, 2012*, pages 599–608, 2012.
- [10] Kira Radinsky, Sagie Davidovich, and Shaul Markovitch. Learning causality for news events prediction. In *Proceedings of the 21st World Wide Web Conference 2012, WWW 2012, Lyon, France, April 16-20, 2012*, pages 909–918, 2012.
- [11] Kira Radinsky and Nir Ailon. Ranking from pairs and triplets: information quality, evaluation methods and query complexity. In *Proceedings of the Forth International Conference on Web Search and Web Data Mining, WSDM 2011, Hong Kong, China, February 9-12, 2011*, pages 105–114, 2011.
- [12] Kira Radinsky, Eugene Agichtein, Evgeniy Gabrilovich, and Shaul Markovitch. A word at a time: computing word relatedness using temporal semantic analysis. In *Proceedings of the 20th International Conference on World Wide Web, WWW 2011, Hyderabad, India, March 28 - April 1, 2011*, pages 337–346, 2011.
- [13] Kira Radinsky, Sagie Davidovich, and Shaul Markovitch. Predicting the news of tomorrow using patterns in web search queries. In *2008 IEEE / WIC / ACM International Conference on Web Intelligence, WI 2008, 9-12 December 2008, Sydney, NSW, Australia, Main Conference Proceedings*, pages 363–367, 2008.

Editorials

- [1] Evgeniy Gabrilovich, Kira Radinsky, and Kuansan Wang. The BIG web track chairs' welcome & organization. In *Companion of the The Web Conference 2018 on The Web Conference 2018, WWW 2018, Lyon, France, April 23-27, 2018*, pages 629–630, 2018.
- [2] Maarten de Rijke, Tom Kenter, Arjen P. de Vries, ChengXiang Zhai, Franciska de Jong, Kira Radinsky, and Katja Hofmann, editors. *Advances in Information Retrieval - 36th European Conference on IR Research, ECIR 2014, Amsterdam, The Netherlands, April 13-16, 2014. Proceedings*, volume 8416 of *Lecture Notes in Computer Science*, 2014. Springer.
- [3] Fernando Diaz, Susan T. Dumais, Miles Efron, Kira Radinsky, Maarten de Rijke, and Milad Shokouhi. SIGIR 2013 workshop on time aware information access (#taia2013):1137, 2013.
- [4] Fernando Diaz, Susan T. Dumais, Kira Radinsky, Maarten de Rijke, and Milad Shokouhi. SIGIR 2013 workshop on time aware information access (#taia2012). *SIGIR Forum*, 46(2):102–106, 2012.

Additional Publications

- [1] Kira Radinsky. Learning to predict the future using web knowledge and dynamics. *SIGIR Forum*, 46(2):114–115, 2012.

Patents

1. System and method for predicting sales. Kira Radinsky, Yaron Zakai Or, 2012
2. Social network based contextual ranking. John Neystadt, Ron Karidi, Yitzhak Tzahi Weisfeld, Roy Varshavsky, Avigad Oron, Kira Radinsky, 2012
3. Time-Aware Ranking Adapted to a Search Engine Application. Kira Radinsky, Susan T. Dumais, Krysta M Svore, Jaime Brooks Teevan, Eric J. Horvitz, 2011

4. Social marketing manager. John Neystadt, Ron Karidi, Yitzhak Tzahi Weisfeld, Roy Varshavsky, Avigad Oron, Kira Radinsky, Moshe Tennenholtz, 2011
5. Social influencers discovery. John Neystadt, Ron Karidi, Yitzhak Tzahi Weisfeld, Moshe Tennenholtz, Kira Radinsky, Roy Varshavsky, 2011
6. Social marketing incentives and rewards. John Neystadt, Ron Karidi, Yitzhak Tzahi Weisfeld, Moshe Tennenholtz, Kira Radinsky, Roy Varshavsky, 2011.
7. Social incentives platform. Moshe Tennenholtz, Roy Varshavsky, Ron Karidi, Aviv Zohar, Yuval EMEK, Kira Radinsky, 2010
8. Real-time multiple engine selection and combination. Kira Radinsky, Roy Varshavsky, Jack W. Stokes, Vladimir Holostov, Edward Schaefer, 2010
9. Market for social promotion of digital goods. Moshe Tennenholtz, Ron Karidi, Roy Varshavsky, Ran Mokady, Yuval EMEK, Kira Radinsky, 2010
10. Statistical Network Traffic Signature Analyzer. Kira Radinsky, Evgeney Ryzhyk, Moshe Golan, 2011
11. Executable code validation in web browser. David B. Cross, Kira Radinsky, 2010

Selected Invited Talks

- O'Reilly Data Science Conference Keynote Speaker (Strata Singapore)
- TEDMed talk (Jerusalem)
- TEDx talk (Tel Aviv)
- Distinguished Lecture (Ben Gurion University of the Negev)
- Distinguished Lecture (Israel Institute for Biological Research)
- Wolf Prize Panel Talk (with Prof. David Harel , Prof. Shimon Ullman, Prof. Noah Efron and Prof. Eli Biham)
- Microsoft Research Invited Talk (Redmond)
- Google Research Talks (NYC, Tel Aviv)
- GE Global Research (NY)
- IBM Research (Haifa)
- O'Reilly Data Science Conference Keynote Speaker (Strata NYC)
- Data Science Summit Keynote Speaker (CA)
- MIT Invited Innovator Talks (Boston)
- Wall Street Journal Executive conference - Keynote Speaker (CA)
- Microsoft ThinkNext with Dr. Harry Shum (Tel Aviv)

Selected Popular Press

- **FastCompany:** This Scientist Uses The New York Times Archive To Eerily, Accurately Predict The Future
- **Forbes:** 10 Female Founders To Watch Out Of Israel
- **MIT Technology Review:** Software Predicts Tomorrow's News by Analyzing Today's and Yesterday's
- **Time Magazine:** Kira Radinsky - the Modern Inventor
- **BBC:** News headlines used to predict future events

- **Wall Street Journal:** Alex Karp and Kira Radinsky on Finding the Balance Between Big Data and Privacy
- **Forbes:** Seven Start-Ups From Israel That You May Want To Watch
- **Wall Street Journal:** How Tech Can Protect Citizens From Big Data That Never Forget
- **IEEE Spectrum:** Kira Radinsky, the Prophet of the Web
- **Jerusalem Post:** Meet the women lighting the Independence Day torches: Dr. Kira Radinsky
- **TechCrunch:** SalesPredict Lands \$4.1M In Series A Funding
- **The NewYorker:** No One Can Predict the News, But Kira Radinsky Gets Close
- **Financial Post:** Predictive algorithm helps companies better tailor pricing, policies and now future events
- **Business Insider:** This Software Can Analyze News And Predict Disease, Violence, And Disaster
- **Discovery Channel:** Future News Predicted Now
- **Der Spiegel:** The Future Of Israel - Kira Radinsky Profile
- **WIRED:** Outsource your empathy with life prediction tool
- **Le Point:** Geniale - Elle predict le futur!
- **Forbes:** What Should Data Scientists Know?
- **O’Rielly:** Kira Radinsky Highlighted: Solving mysteries using predictive analytics