

Kira Radinsky

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Visiting Professor, Technion
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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.

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

Education

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

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

Honors & Awards

2017 **Person of the year**
Channel 9
Recognized by channel 9 for “breaking the glass ceiling” for the Aliya from USSR.

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.

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** **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.
- 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

- 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
- 2006** **Israel Defense Prize**
Israel Minister of Defense
For significant contributions to the defense of the state of Israel (shared)

Publications

Editorials

- [1] 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. In Lecture Notes in Computer Science. Springer, 2014.
- [2] 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.
- [3] 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.

Journal Papers

- [1] 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**.
- [2] Kira Radinsky, Sagie Davidovich, and Shaul Markovitch. Learning to predict from textual data. *J. artif. intell. res. (JAIR)*, 45:641–684, 2012.

Selected Refereed Conference Papers

- [1] 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*, 2017, page 1351.
- [2] Guy D. Rosin, Eytan Adar, and Kira Radinsky. Learning word relatedness over time. In *Conference on empirical methods in natural language processing EMNLP*, 2017.
- [3] 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.
- [4] 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*, 2013, pages 255–264.
- [5] 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*, 2013, pages 415–424.
- [6] 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*, 2013, pages 781–782.
- [7] 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*, 2012, pages 601–610.
- [8] 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*, 2012, pages 599–608.
- [9] 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*, 2012, pages 909–918.
- [10] 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*, 2011, pages 105–114.
- [11] 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*, 2011, pages 337–346.
- [12] 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*, 2008, pages 363–367.

Additional Publications

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

Thesis

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

Patents

1. System and method for predicting sales
2. Time-Aware Ranking Adapted to a Search Engine Application.
3. Social incentives platform
4. Social marketing manager
5. Market for social promotion of digital goods
6. Social influencers discovery
7. Social network based contextual ranking
8. Social marketing incentives and rewards
9. Real-time multiple engine selection and combination
10. Statistical Network Traffic Signature Analyzer
11. Executable code validation in web browser

Professional Activities

Organization and Committee Activities

- 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:** 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

Selected Invited Talks

- 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, Strata CA)
- 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)

Teaching Experience

Courses Taught

- Lecturer in charge, “Advanced Data Science” course, 2016–2017
- Lecturer in charge, “Deep Learning for NLP” course, 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

Advisor to Graduate Students

- Uriel Singer (MSc Technion). Thesis Topic: “The Progression of Science over Time through the Studies of Knowledge of PPI”
- Galia Nordon (PhD Technion). Thesis Topic: “Mining Historical Medical Archives for Treatment Break-throughs”
- Guy Rosin (MSc Technion). Thesis Topic: “Learning Language Changes over Time”

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 New Yorker:** 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

Work 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.

2012 - 2016 SalesPredict, 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 - Intelligence Forces (Israel Defense Forces)
2007 *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”.