

Dana Ron

Curriculum Vitae

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Work Address

Dept. of Electrical Engineering - Systems
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Home Address

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Personal

Date of birth: July 30, 1964
Citizenship: Israeli and American
Marital status: Married

Areas of Research

Sublinear Algorithms, Property Testing, Randomized Algorithms, Approximation Algorithms.

Education

- 1984–1987:** B.A., Computer Science and Physics (*Cum Laude*), Hebrew University, Jerusalem, Israel.
- 1987–1989:** M.Sc., Computer Science (*Cum Laude*), Hebrew University, Jerusalem, Israel. Thesis Title: “Communication in the presence of faults on networks of bounded degree”. Advisor: Prof. Michael Ben-Or.
- 1991–1995:** Ph.D., Computer Science, Hebrew University, Jerusalem, Israel. Thesis Title: “Automata Learning and its Applications”. Advisor: Prof. Naftali Tishby.

Academic Positions

- September 1995 – September 1997:** Postdoctoral Fellow at MIT, Cambridge, USA.
- September 1997 – August 1998:** Science Scholar at Radcliffe and MIT, Cambridge, USA.
- October 1998 – June 2000:** Lecturer at the department of EE-Systems, Tel-Aviv University, Israel.
- June 2000 – July 2004:** Senior lecturer at the department of EE-Systems (with tenure), Tel-Aviv University, Israel.
- September 2003 – August 2004:** Fellow at the Radcliffe Institute, Harvard University, USA.
- July 2004 – May 2009:** Associate Professor at the department of EE-Systems, Tel-Aviv University, Israel.

May 2009 – present: Full Professor at the department of EE-Systems, School of EE, Tel-Aviv University, Israel.

September 2011 – September 2012: Visiting scientist (on Sabbatical) at Columbia University, USA.

September 2019 – September 2020: Visiting scientist (on Sabbatical) at Columbia University, USA.

Industrial Experience

1989–1991: Software engineer in ROSH Intelligent Systems Ltd., Industrial Park - Mevasseret Jerusalem. (Rosh Intelligent Systems Ltd. specialized in the development of expert systems software.)

2001–2002 Participant in the Large Scale Rural Telecommunication consortium, initiated by the Israeli ministry of industry.

Fellowships and Awards

- Dean's list of honors, 1984/5, 1985/6, and 1986/7; Hebrew University.
- Eshkol Fellowship for doctorate studies 1993–5; Israeli Ministry of Science.
- NSF Postdoctoral Fellowship 1995–7.
- Bunting Fellowship 1997–8.
- Distinguished teacher award, 2001,2002.
- Radcliffe/Harvard group fellowship, 2003–4.
- Distinguished teacher award, 2009, 2010, 2013.
- List of "top 100 university lecturers", 2013, 2015, 2016, 2017.
- Rector's list of excellence in teaching, 2016.
- Kadar prize for outstanding research at Tel Aviv University, 2018.
- Fellow of the European Association for Theoretical Computer Science (EATCS), 2019.
- The Lazarus brothers chair of Computer Engineering at Tel Aviv University, since 2019.
- Fellow of the European Association for Theoretical Computer Science (ACM), 2023.

Grants (external)

(Unless stated otherwise, I am the only principle investigator (PI).)

- 2000–2004: Israel Science Foundation grant number 32/00, "Testing Properties of Very Large Objects" (about 140,000\$).
- 2000–2003: Israel Science Foundation F.I.R.S.T grant, "Crossing the Chasm: Linguistic Structure and Automatic Learning from Examples" (around 10,000\$ (per investigator)). Additional PIs: Edit Doron, Mori Rimon, and Yoram Singer,
- 2005–2008: Israel Science Foundation grant number 89/05, "The Dense, the Sparse, and the General: Parameterized Property Testing" (about 120,000\$).

- 2008-2012: Israel Science Foundation grant number 246/08, “Sublinear Algorithms: From Decision to Approximation” (about 160,000\$).
- 2013-2018: Israel Science Foundation grant number 671/13, “Property Testing and Sublinear Algorithms: Graphs, Distributions, and Time-Evolving Environments”, joint with Oded Goldreich from the Weizmann Institute, (about 200,000\$).
- 2018–2023: Israel Science Foundation grant number 1146/18, “New and Old Challenges in Property Testing and Sublinear Algorithms”, joint with Oded Goldreich from the Weizmann Institute, (about 300,000\$).

Service to the University

- 2001–2003: Member of the faculty’s teaching committee.
- 2004–2006: Member of the school’s MSc admissions committee.
- 2006–2009: Head of the EE school’s graduate committee.
- 2009–present: Member of the EE school’s graduate committee.
- 2008-2009: Member of the faculty’s web-site committee.
- 2006–2008: Member of the G&D-TAU steering committee.
- 2010–2011: Head of the faculty’s computing committee.
- 2010–2011, 2012–2013: Member of the university’s senate.
- 2010–2011: Member of the faculty’s promotion committee.
- 2012–2015: Member of the Engineering faculty math committee and member of the EE school math committee.
- 2013–2016: Member of the university promotion committee.
- 2014–2016: Member of the university board of governors.
- 2014–2019: Member of the university gender-fairness committee, and head of the faculty gender-fairness committee.
- 2014–2019: Head of the faculty undergraduate admissions committee.
- 2017–2019: Member of the EE school promotion committee.
- 2020–present: Member of the university’s senate.
- 2020–present: Member of the EE school promotion committee.
- 2020-2021: Member of the ad-hoc advisory committee for the president concerning diversity at Tel Aviv university.
- 2020–present: Member of the committee for the selection of public members to university’s board of directors.
- 2022: Member of the committee for the selection of the head of the university’s board of directors.
- 2023: Head of the ad-hoc advisory committee for the rector concerning admissions of undergraduate Arab candidates
- 2023–present Member of the TAU-MANBA coordination committee

Public Professional Activities

Academic councils and boards of governors

- 2004–present: Member of the board of governors of the Triangle regional R&D center.
- 2009–2016: Member of the academic council of the Open University.
- 2010–2015: Member of the academic council of the Nazareth College.

Program Committees

- Member of the Program Committee for the *9th Annual ACM Conference on Computational Learning Theory (COLT)*, 1996.
- Member of the Program Committee for the *17th Annual National Conference on Artificial Intelligence (AAAI)*, 2000.
- Member of the Program Committee for the *The 4th International Workshop on Randomization and Approximation Techniques in Computer Science (RANDOM)*, 2000.
- Member of the Program Committee for the *42nd Annual IEEE Symposium on the Foundations of Computer Science (FOCS)*, 2001.
- Member of the Program Committee for the *44th Annual IEEE Symposium on the Foundations of Computer Science (FOCS)*, 2003.
- Member of the Program Committee for the *The 7th International Workshop on Randomization and Approximation Techniques in Computer Science (RANDOM)*, 2003.
- Chair of the Program Committee for the *The 8th International Workshop on Randomization and Approximation Techniques in Computer Science (RANDOM)*, 2004.
- Member of the Program Committee for the *38th ACM Symposium on Theory of Computing (STOC)*, 2006.
- Member of the Program Committee for the *35th International Colloquium on Automata, Languages and Programming (ICALP)*, 2008.
- Member of the Program Committee for the *48th Annual IEEE Symposium on the Foundations of Computer Science (FOCS)*, 2009.
- Member of the Program Committee for the *44th ACM Symposium on Theory of Computing (STOC)*, 2012.
- Member of the Program Committee for the *18th International Workshop on Randomization and Computation (RANDOM)*, 2014.
- Member of the Program Committee for the *5th Innovations in Theoretical Computer Science Conference (ITCS)*, 2015.
- Member of the Program Committee for the *32nd Computational Complexity Conference (CCC)*, 2017.
- Member of the Program Committee for the *10th Innovations in Theoretical Computer Science Conference (ITCS)*, 2019.
- Member of the Organizing Committee for the *Workshop on Local Algorithms (WOLA)*, 2019.

- Member of the Program Committee for the *52nd ACM Symposium on Theory of Computing (STOC)*, 2020.
- Member of the Program Committee for the *13th Innovations in Theoretical Computer Science Conference (ITCS)*, 2022.
- Member of the Program Committee for the *7th Highlights of Algorithms (HALG)* conference, 2022.
- Member of the Program Committee for the *64th Annual IEEE Symposium on the Foundations of Computer Science (FOCS)*, 2023.

Editorial Work and Steering Committees

- 1996: Guest Editor for *Machine Learning, COLT96* Special Issue.
- 1999–2002: Member of the Editorial Board of *Journal of Artificial Intelligence Research*.
- 2000–2011: Member of the Editorial Board of *Journal of Machine Learning Research*.
- 2011–2023: Member of the Editorial Board of *SIAM Journal on Computing*
- 2019–present: Member of the Steering Committee for the conference RANDOM.
- 2023–present: Member of the TheoretiCS journal advisory committee.

Reviewer

Journals

Computational Complexity; IEEE Transactions on Information Theory; Information and Computation; Information Processing Letters (IPL); Journal of Artificial Intelligence Research (JAIR); Journal of Computer and System Sciences (JCSS); Journal of Machine Learning Research (JMLR); Journal of the ACM (JACM); Machine Learning Journal (MLJ); Neural Computation (NC); Random Structures and Algorithms (RSA); Theoretical Computer Science (TCS); SIAM Journal on Computing (SICOMP); SIAM Journal on Discrete Math (SIDMA).

Conferences

Advances in Neural Information Processing Systems (NIPS); Computational Learning Theory (COLT); European Symposium on Algorithms (ESA); Foundations of Computer Science (FOCS); International Colloquium on Automata, Languages and Programming (ICALP); International Workshop on Randomization and Computation (RANDOM); Symposium on Theoretical Aspects of Computer Science (STACS); Symposium on Theory of Computing (STOC); Symposium on Discrete Algorithms (SODA).

Funding Agencies

Bi-National Science Foundation (BSF); Engineering and Physical Sciences Research Council (EPSRC), UK. Israel Science Foundation (ISF); Natural Sciences and Engineering Research Council of Canada (NSERC);

Conferences Attendance

- *The 25th Annual ACM Symposium on Theory of Computing (STOC)*, 1993.
- *The 6th Annual Conference on Computational Learning Theory (COLT)*, 1993.
- *The 26th Annual ACM Symposium on Theory of Computing (STOC)*, 1994.
- *The 7th Annual Conference on Computational Learning Theory (COLT)*, 1994.
- *The 27th Annual ACM Symposium on Theory of Computing (STOC)*, 1995.
- *The 8th Annual Conference on Computational Learning Theory (COLT)*, 1995.
- *The 36th Annual Symposium on Foundations of Computer Science (FOCS)*, 1995.
- *The 37th Annual Symposium on Foundations of Computer Science (FOCS)*, 1996.
- *The 29th Annual ACM Symposium on Theory of Computing (STOC)*, 1997.
- *The 10th Annual Conference on Computational Learning Theory (COLT)*, 1997.
- *The 30th Annual ACM Symposium on Theory of Computing (STOC)*, 1998.
- *The 11th Annual Conference on Computational Learning Theory (COLT)*, 1998.
- *The 39th Annual Symposium on Foundations of Computer Science (FOCS)*, 1998.
- *The 3rd International Workshop on Randomization and Computation (RANDOM)*,¹ 1999.
- *The 27th International Colloquium on Automata, Languages and Programming (ICALP)*, 2000.
- *The 41st Annual Symposium on Foundations of Computer Science (FOCS)*, 2000.
- *The 33rd Annual ACM Symposium on Theory of Computing (STOC)*, 2001.
- *The 5th International Workshop on Randomization and Computation (RANDOM)*, 2001.
- *The 6th International Workshop on Randomization and Computation (RANDOM)*, 2002.
- *The 7th International Workshop on Randomization and Computation (RANDOM)*, 2003.
- *The 45th Annual Symposium on Foundations of Computer Science (FOCS)*, 2004.
- *The 10th International Workshop on Randomization and Computation (RANDOM)*, 2006.
- *The 39th Annual ACM Symposium on Theory of Computing (STOC)*, 2007.
- *The 11th International Workshop on Randomization and Computation (RANDOM)*, 2007.
- *The 12th International Workshop on Randomization and Computation (RANDOM)*, 2008.
- *The 41st Annual ACM Symposium on Theory of Computing (STOC)*, 2009,
- *The 13th international Workshop on Randomization and Computation (RANDOM)*, 2009.
- *The 14th international Workshop on Randomization and Computation (RANDOM)*, 2010.

¹Though the term “workshop” appears in the title, this is a (refereed) conference. I use here the shorter title, though at the time it was named the *International Workshop on Randomization and Approximation Techniques in Computer Science*.

- *The 15th international Workshop on Randomization and Computation (RANDOM)*, 2011.
- *The 44th Annual ACM Symposium on Theory of Computing (STOC)*, 2012,
- *The 16th international Workshop on Randomization and Computation (RANDOM)*, 2012.
- *The 2nd French-Israeli workshop on Foundations of Computer Science (FILOFOCS)*, 2013.
- *The 18th international Workshop on Randomization and Computation (RANDOM)*, 2014.
- *The 55th Annual Symposium on Foundations of Computer Science (FOCS)*, 2014.
- *The 4th French-Israeli workshop on Foundations of Computer Science (FILOFOCS)*, 2015.
- *The 6th Innovations in Theoretical Computer Science Conference (ITCS)*, 2015.
- *The 19th International Workshop Randomization and Computation (RANDOM)*, 2016.
- *Workshop on Local Algorithms (WOLA)*, 2016.
- *The 57th Annual Symposium on Foundations of Computer Science (FOCS)*, 2016.
- *The 6th French-Israeli workshop on Foundations of Computer Science (FILOFOCS)*, 2017.
- *The 46th International Colloquium on Automata, Languages and Programming (ICALP)*, 2019.
- *Workshop on Local Algorithms (WOLA)*, 2019.
- *The 22nd International Workshop Randomization and Computation (RANDOM)*, 2019.
- *The 60th Annual Symposium on Foundations of Computer Science (FOCS)*, 2019.
- *The 52nd Annual ACM Symposium on Theory of Computing (STOC)*, 2020 (virtual).
- *Workshop on Local Algorithms (WOLA)*, 2020 (virtual).
- *The 23rd International Workshop Randomization and Computation (RANDOM)*, 2020 (virtual).
- *Workshop on Algorithms for Large Data (WALDO)*, 2021 (virtual).
- *The 13th Innovations in Theoretical Computer Science Conference (ITCS)*, 2022 (virtual).
- *The 9th French-Israeli workshop on Foundations of Computer Science (FILOFOCS)*, 2022.
- *Workshop on Local Algorithms (WOLA)*, 2022 (hybrid).

Teaching

Graduate Courses

- Machine Learning (Fall 1998, Spring 2000, 2001, 2005, 2008, 2010, Fall 2017).
- Design and Analysis of Algorithms (Spring 1999, 2002, 2003, 2005, 2006, 2009, 2013, 2015, Fall 2016, 2018, 2020, 2022).
- Topics in Algorithms (Spring 2006)
- Sublinear Algorithms (Fall 2021)

Undergraduate Courses

- Data Structures and Algorithms (Fall 1999, 2000, 2001, 2002, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2014 (both semesters), 2015, Spring 2016, 2017, 2018, 2019, 2021, 2022, 2023).
- Academic supervision of the Advanced Computer Lab (Fall 2007, 2008, 2009, 2010).

Supervision of Students

Masters Students (thesis)

- Alexander Izbinsky (joint supervision with Yuval Shavitt). Completed his M.Sc thesis titled: “Testing the Diameter of Directed Graphs” in June, 2004.
- Michal Betito. Completed her M.Sc thesis titled: “Detecting OSA Syndrome from PAT Oximetry Recordings using Fuzzy Decision Trees ” in August 2004.
- Amir Rosenfeld. Completed his M.Sc thesis titled: “On the Expected Classification Speed of Boolean Functions” in October 2004.
- Sharon Marko. Completed her M.Sc thesis titled: “Distance Approximation in Bounded-Degree and General Sparse Graphs” in December 2005.
- Shahar Fattal. Completed his M.Sc thesis titled: “Approximating the distance to monotonicity and convexity in sublinear time” in November 2006.
- Lotem Kaplan. Completed her M.Sc thesis (joint supervision with Guy Even), titled: “Scheduling with conflicts”, May, 2007.
- Yaron Orenstein. Completed his M.Sc thesis “Testing Properties of Directed Graphs” in March, 2010.
- Reut Levi (from the CS school, joint supervision with Ronitt Rubinfeld). Completed her M.Sc thesis “Testing Properties of Collections of Distributions” in October 2010.
- Elya Dolev. Completed her M.Sc thesis ”Distribution-Free Testing Algorithms for Monomials with a Sublinear Number of Queries” in March, 2011.
- Michal Rosen (from the CS school, joint supervision with Ronitt Rubinfeld). Completed her thesis “A Near-Optimal Sublinear-Time Algorithm for Approximating the Minimum Vertex Cover Size” in June 2011.
- George Khur. Completed his thesis “Real-Time Segmentation and Recognition of Online Handwritten Arabic Script” in November 2014 (joint supervision with Raid Saabne).
- Talya Eden (Abram). Completed her thesis “Counting the Number of Triangles in Sublinear-Time”, March 2015.
- Amit Levi. Completed his thesis “On Symmetric Structures in Graphs and Applications in Property Testing”, July 2015.
- Yaniv Sabo. Completed his thesis “On Finding Small Subgraphs in Bounded-Degree Graphs”, December 2016.
- Yonatan Nakar. Completed his thesis “On the Testability of Graph Partition Properties”, August 2018.

- Nimrod Fiat. Completed his thesis “Efficient Distance Approximation for Graph Properties”, August 2019.
- Asaf Rosin. Completed his thesis “Optimal Distribution-Free Sample-based Testing for Subsequence-Freeness”, December 2020.
- Omer Cohen Sidon. Completed his thesis “Sample-based distance approximation for subsequence freeness”, August 2022.
- Uri Bracha. Started working on his thesis in the area of property testing in 2023.

Masters Students (projects)

- Aviram Lev-Ari. Completed his M.Sc project titled “Approximation Algorithms for finding Dense Sub-graphs” in 2000.
- Doron Har-Lev. Completed his M.Sc project titled “Movie Advisor” in 2001.
- Ronit Zrahia. Completed her M.Sc project titled “A Comparison between Learning and Data Mining Techniques for a System with Remote Control” in 2002.
- Moti Bin-Noon. Completed his M.Sc project titled “Early Stopping Rules for Decision Trees Applied in Data Mining” in 2003.
- Hagay Gilad. Completes his M.Sc project titled “An Algorithm for Improving the Prediction of Cardiac Disorders” in 2003.
- Rotem Aviv. Completed his M.Sc project on testing connectivity in binary images in May 2011.
- Ori Broit. Completed his M.Sc project on testing compressibility in June 2011.
- Racheli Stahl. Completed her M.Sc project on data mining of medical data in an intensive care unit in December 2014. Started working on this project in the beginning 2014.
- Nadav Krispin. Completed his M.Sc project on k -means clustering algorithms in December 2015.
- Eliezer Yucht. Completed his M.Sc project on estimating closeness to the uniform distribution on RC4 keystream bytes using Property testing in December 2016.
- Dani Antonelli. Completed his M.Sc project on solving constrained modulo scheduling problems using genetic algorithms in April 2017.

Doctoral Students

- Tali Kaufman. Completed her PhD thesis in 2005 (joint supervision with Noga Alon and Michael Krivelevich). Thesis title: “Property Testing of Graphs and Codes”. Started her PhD studies in 2001.
- Gilad Tsur. Completed his PhD thesis in 2011. Thesis title: “Topics in Property Testing and Sublinear algorithms”. Started his PhD studies in April, 2007.
- Reut Levi (from the CS school, joint supervision with Ronitt Rubinfeld). Completed her PhD thesis in 2014. Thesis title: “Sublinear-Time Algorithms: Local Algorithms and Testing Distributions”. Started her PhD in December 2010.

- Talya Eden (Abram). Completed her PhD thesis in 2019. Thesis title: “Counting and Sampling Subgraphs in Sublinear Time”. Started her Phd Studies in May 2015.
- Yonatan Nakar. Started his PhD studies in the area of Property Testing in October 2018. Expected to complete his thesis on Property Testing of Dynamic Environments in 2024.

Other Collaborations with Students

- Zvika Lotker, completed his PhD in 2002. Joint work on conflict free coloring (together with Guy Even and Shakh̄ar Smorodinsky).
- Mira Gonen, completed her PhD in 2008. Joint work during her PhD on adaptive Property Testing algorithms, joint work during her PhD on finding a dense core in jellyfish graphs (the latter is joint work with Udi Weinsberg and Avishay Wool), and joint work during her Post-Doc on sublinear algorithms for counting subgraphs.
- Ido Ben-Eliezer, joint work on Property Testing while he was an M.Sc student (together with Tali Kaufman and Michael Krivelevich).
- Omri Weinstein, currently a PostDoc at NYU, joint work on approximating the influence of monotone Boolean functions while he was an undergraduate student (together with Ronitt Rubinfeld and Muli Safra).
- Clément Canonne, currently a PhD student at Columbia, joint work on testing conditional distributions (together with Rocco Servedio), and joint work on tolerant testing of juntas (together with my students Talya Eden and Amit Levi, and with Eric Blais).
- Moti Medina, currently a PostDoc at Max Planck, joint work on local algorithms for graphs (together with Guy Even).

Postdocs

- Raid Saabni. Algorithms for historical manuscript analysis, October, 2010 – September 2011.