

Curriculum Vitae

Omrit Filtser

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Personal Details

Address: Department of Applied Mathematics and Statistics, Stony Brook University, NY

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Date of Birth: 24.12.1987

Marital status: Married, two children.

Education and Research Experience

2019-now: Postdoc at Stony Brook University, hosted by Prof. Joseph S.B. Mitchell.

2014-2019: PhD student in Computer Science, Ben-Gurion University of the Negev.
Advisor: Matthew J. Katz. Title: The Discrete Fréchet Distance and Applications.

2012-2014: MSc in Computer Science, Ben-Gurion University of the Negev.
Advisor: Matthew J. Katz. Title: The Discrete Fréchet Distance and Applications.
Graduated Summa cum Laude (final score 97.9/100).

2009-2012: BSc in Computer Science, Ben-Gurion University of the Negev.
Graduated Summa cum Laude (average 95.65/100).

During Bachelor's:

- **2009-2012:** Participated in the excellence program of Microsoft Israel, which includes unique technological courses in the forefront of research in the R&D center.
- **2012:** Participated in "Dkalim" scholarship program for outstanding students applying to Master studies in computer science. As part of the program I participated in research seminars and worked in collaboration with researchers from the university.

Honors and Awards

- The Israeli Council for Higher Education fellowship for postdoctoral women fellows, 2019.
- BGU scholarship for postdoctoral women fellows abroad, 2019.
- Eric and Wendy Schmidt Postdoctoral Award for Women in Mathematical and Computing Sciences, 2019.
- Philippe Chaim Zabey Award for excellent Master Thesis, 2017.
- The Israeli Ministry of Science & Technology Scholarship for women in science (PhD students), 2015.
- Friedman Award for outstanding achievements in research, 2015.
- Dean's honor for excellent graduate students, 2015.
- Negev Scholarship for excellence in research, 2014.
- The Israeli Ministry of Science & Technology Scholarship for women in science (Master students), 2013.
- Martha and Solomon Scharf prize for excellent undergraduate, the elite scouting unit for Hi-Tech studies, 2010, 2011, 2012.
- Intel Award, 2012.
- Dean's honors for undergraduate students, 2011, 2012.
- Department's honors, 2010, 2011, 2012.

Teaching and Work Experience

- 2006-2009:** Programmer at the Israeli Defense Force.
- 2013:** Teaching: Automata and Formal Languages.
Grading: Discrete Structures and Combinatorics.
- 2014:** Grading: Automata and Formal Languages.
Grading: Discrete Structures and Combinatorics.
- 2015-2018:** Grading: Computational Geometry.
Teaching: Data Structures.

Publications

(The authors are listed in alphabetical order)

Scientific Journals:

- **Universal approximate simplification under the discrete Fréchet distance.**
Omrit Filtser.
Information Processing Letters (IPL), 2018.
- **Guarding orthogonal art galleries with sliding cameras.**
Stephane Durocher, Omrit Filtser, Robert Fraser, Ali D. Mehrabi, Saeed Mehrabi.
Computational Geometry: Theory and Applications (CGTA), 2017.
- **The Discrete and Semicontinuous Fréchet Distance with Shortcuts via Approximate Distance Counting and Selection.**
Rinat Ben Avraham, Omrit Filtser, Haim Kaplan, Matthew J. Katz, Micha Sharir.
ACM Transactions on Algorithms (TALG), 2015.

Refereed Conferences - Published:

- **Terrain-Like Graphs: PTASs for Guarding Weakly-Visible Polygons and Terrains.**
Stav Ashur, Omrit Filtser, Matthew J. Katz, and Rachel Saban.
International Workshop on Approximation and Online Algorithms (WAOA), 2019.
- **Efficient Nearest Neighbor Query and Clustering of Planar Curves.**
Boris Aronov, Omrit Filtser, Michael Horton, Matthew J. Katz, and Khadijeh Sheikhan.
Algorithms and Data Structures Symposium (WADS), 2019.
- **Bipartite diameter and other measures under translation:**
Boris Aronov, Omrit Filtser, Matthew J. Katz, and Khadijeh Sheikhan.
Symposium on Theoretical Aspects of Computer Science (STACS), 2019.
- **Algorithms for the discrete Fréchet distance under translation.**
Omrit Filtser and Matthew J. Katz.
Scandinavian Symposium and Workshops on Algorithm Theory (SWAT), 2018.
- **On the General Chain Pair Simplification Problem.**
Chenglin Fan, Omrit Filtser, Matthew J. Katz, and Binhai Zhu.
International Symposium on Mathematical Foundations of Computer Science (MFCS) 2016.
- **On the Chain Pair Simplification Problem.**
Chenglin Fan, Omrit Filtser, Matthew J. Katz, Tim Wylie, and Binhai Zhu.
Algorithms and Data Structures Symposium (WADS) 2015.
- **The Discrete Fréchet Distance with Shortcuts via Approximate Distance Counting and Selection Techniques.**
Rinat Ben Avraham, Omrit Filtser, Haim Kaplan, Matthew J. Katz, and Micha Sharir.
Symposium on Computational Geometry (SoCG) 2014.
- **A $(7/2)$ -Approximation Algorithm for Guarding Orthogonal Art Galleries with Sliding Cameras.**
Stephane Durocher, Omrit Filtser, Robert Fraser, Ali Mehrabi, and Saeed Mehrabi.
Latin American Theoretical INformatics Symposium (LATIN) 2014.

- **Simple Rectilinear Polygons are Perfect under Rectangular Vision.**
Esther Arkin, Michael Biro, Omrit Filtser, Matthew J. Katz, Joseph S.B. Mitchell, and Christiane Schmidt.
Fall Workshop on Computational Geometry, 2013.

Refereed Conferences - Submitted:

- **Approximate Nearest Neighbor for Curves --- Simple, Efficient, and Deterministic.**
Arnold Filtser, Omrit Filtser and Matthew J. Katz.
- **A Constant-Factor Approximation Algorithm for Vertex Guarding a WV-Polygon.**
Stav Ashur, Omrit Filtser, and Matthew J. Katz.
- **A Tour of General Hanoi Graphs:** Daniel Berend, Liat Cohen and Omrit Filtser.

Presentations in conferences and invited talks:

- **The Discrete Fréchet Distance and Applications:**
 - *PhD talk, Computer science colloquium, Ben Gurion University, 26.3.19.*
 - *Computer Science seminar, Holon Institute of Technology, 28.4.19.*
- **Bipartite diameter and other measures under translation:**
 - *Symposium on Theoretical Aspects of Computer Science, 14.3.19.*
- **Algorithms for the discrete Fréchet distance under translation:**
 - *Computational Geometry Seminar, Tel Aviv University, 27.12.17.*
 - *Scandinavian Symposium and Workshops on Algorithm Theory, 18.6.18 .*
- **The Discrete Fréchet Gap:**
 - *Young Researcher Workshop on Automata, Languages and Programming (Satellite Workshop of ICALP), 5.7.15.*
 - *Research Seminar in Discrete and Computational Geometry, Ben-Gurion University, 11.11.15.*
- **The Discrete Fréchet Distance with Shortcuts:**
 - *Research Seminar in Discrete and Computational Geometry, Ben-Gurion University, 2.12.13.*