

Curriculum Vitae

Shtossel Oshrit, Ph.D

Personal Details + Affiliation

Name: Shtossel Oshrit, Ph.D

Current Position: Lecturer, Department of Computer Science, The College of Management Academic Studies Rishon Le'zion and lecturer, Department of Mathematics, Bar Ilan University.

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1. Education

Ph.D. in Mathematics (Data Science), Bar-Ilan University, 2025

Thesis: Novel Methods for Trans-Condition Microbiome-Based Predictions

M.Sc. in Mathematics (Data Science), Bar-Ilan University, Summa cum laude,
Combined track to Ph.D, 2022

B.Sc. in Theoretical Mathematics, Bar-Ilan University, Summa cum laude,
Excellence Program "Ilanot", 2019

2. Academic Experience

2025-Present: Lecturer, The College of Management Academic Studies, Courses:
Calculus I, Machine Learning and Statistics in Medical Applications, Linear Algebra
I, Data Science Seminar, Leading Final Projects in Data Science.

2023-Present: Lecturer, Bar-Ilan University, Courses: Calculus, Statistical Theory,
Inference and Statistical Theory, Probability & Statistics for Bioinformatics, Statistics,
Epidemiology & Biostatistics, Introduction to Probability, Linear Algebra I, Linear
Algebra II.

3. Academic Activities

- Administrative roles

Member, Department of Computer Science, The College of Management
Academic Studies

- Supervision of undergraduate students

B.Sc. student from Bar Ilan University (ongoing)

B.Sc.students' final projects in Data Science The College of Management
Academic Studies (ongoing, 5 groups)

4. Professional Experience

2020-Present Researcher, YOLO Lab, Bar-Ilan University, Research in ML, DL, and
microbiome-based clinical data

2019–2025: University Tutor, Bar-Ilan University, Subjects: Discrete Math, Calculus, Linear Algebra, Probability & Statistics, Complex Networks

2019–Present Exam Prep Leader, Bar-Ilan University, Marathon sessions through Bar-Ilan's Academy for the People in the Faculties of Engineering and Computer Science

5. Grants and Awards

Ilanot scholarship for excellence

Dean's List: 2017, 2019

Rector's List: 2018

Outstanding Female Master's Scholarship in High-tech

Rector's Prize (M.Sc. 2022, Ph.D. 2024)

Presidential Fellowship Program (Ph.D.)

Excellence Scholarship (Ph.D. in Data Science)

6. Publications

Shtossel, O., et al. "Recipient-independent, high-accuracy FMT-response prediction and optimization in mice and humans." *Microbiome*, 11.1 (2023): 181.

Shtossel, O., et al. "Ordering taxa in image convolution networks improves microbiome-based machine learning accuracy." *Gut Microbes*, 15.1 (2023): 2224474.

Shtossel, O., and Louzoun, Y. "Sampling bias minimization in disease frequency estimates." *Journal of Theoretical Biology*, 534 (2022): 110972.

Shtossel, O., et al. "Gut microbiome-metabolome interactions predict host condition." *Microbiome*, 12.1 (2024): 24.

Shtossel, O., Finkelstein, S., and Louzoun, Y. "mi-Mic: a novel multi-layer statistical test for microbiota-disease associations." *Genome Biology*, 25.1 (2024): 113.

Shtossel, Oshrit, Omry Koren, and Yoram Louzoun. "Left Barrier Loss for Unbiased Survival Analysis Prediction." *IEEE Transactions on Pattern Analysis and Machine Intelligence* (2025).

Shtossel, Oshrit, and Yoram Louzoun. "GIMIC: smoothed graph-image representation of microbiome samples induce an optimal distance." *Genome Biology* 26.1 (2025): 350.

Shtossel, Oshrit, et al. "Microbiome-based prediction of allogeneic hematopoietic stem cell transplantation outcome." *Genome Medicine* 17.1 (2025): 80.

Shtossel, O., et al. "Shifting from Abundance and Centrality – Fluctuating Microbes are Key Drivers of Long Lasting Microbiome Manipulation." (2025) – Under review in *Nature*.

Pinto, Y., et al. "Gestational diabetes is driven by microbiota-induced inflammation months before diagnosis." *Gut*, 72.5 (2023): 918–928.

Yirmiya, Karen, et al. "Microbiome signature of posttraumatic stress disorder and resilience in youth." *Psychological Trauma: Theory, Research, Practice, and Policy* (2024).

Orvieto, R., et al. "The effect of the Israeli authority plan to divert private to public funding on the results of in vitro fertilization treatment outcome." *Harefuah*, 164.2

(2025): 77–81.

Kolp Asis S, Miron E, Shtossel O, Ashkenazi Katz A, Minich O, Vaknin Geron L, Gavish O, The Impact of Parity on Uterine Rupture in Patients With and Without Prior Cesarean, American Journal of Obstetrics and Gynecology (2025), doi: 10.1016/j.ajog.2025.07.004.

Finkelstein, S., Shtossel, O., Turjeman, S., Frankiensztajn, L., Neuman, H., Omer-Armon, A., Shahien, R., Koren, O., Louzoun, Y. “Cross-cohort microbiome-based prediction of Parkinson’s Disease using six consistent genera.” (2025) – Under review in npj.

Nuriel-Ohayon, M., et al. ”Progesterone supplementation in mice leads to microbiome alterations and weight gain in a sex-specific manner.” bioRxiv (2021).