CONTACT
INFORMATION

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PROFESSIONAL
SUMMARY

Ph.D. candidate and research scientist specializing in applied deep learning for biology, dynamical systems, and computer vision. Experienced in bridging theory with real-world applications, with publications in top-tier venues.

EDUCATION

Computer Science and Computational Biology, Hebrew University.
Ph.D. advised by Dr. Mor Nitzan.   2020 – Ongoing
M.Sc. advised by Prof. Nir Friedman. GPA 95.1, 2nd in class.   2016 – 2018
B.Sc. advised by Prof. Nir Friedman. GPA 94.2, *Magna Cum Laude.*   2012 – 2015

WORK
EXPERIENCE

IBM, Research Scientist.   2024 – Ongoing
Quantifying confidence in transcriptomic foundation models.
Translating insights across mouse models and human Alzheimer's data.

Harvard University, Research Scientist.   2019 – 20
Reconstruction of spatial information from gene expression data.
Integrating structural and atlas priors using Optimal Transport frameworks.

Mobileye, Algorithm Engineer.   2018 – 19
Developed computer vision and deep learning algorithms for autonomous vehicle.
Focused on object detection and scene understanding for real-time processing.

Broad Institute, Research Scientist.   2016
Adopting single-cell RNA-Sequencing and its analysis to yeast.
Designing a library of combinatorial genetic perturbations.

SELECTED
PUBLICATIONS

For full list see Google Scholar.

Moriel N.*, Ricci M.*, & Nitzan M. 2024. Let's do the time-warp-attend:
learning topological invariants of dynamical systems. ICLR 2024.

Moriel N.*, Edvin M.*, & Nitzan M. 2024. Optimal sequencing budget allocation for trajectory reconstruction of single cells. ISMB/Bioinformatics 2024.

Ricci M., **Moriel N.**, Piran Z., & Nitzan M. 2023. Phase2vec: dynamical systems embedding with a physics-informed convolutional network. ICLR 2023.

Adler M.*, **Moriel N.***, ..., Regev A., Medzhitov R., & Nitzan M. 2023. Emergence of division of labor in tissues through cell interactions and spatial cues. Cell Reports.

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* Equal contribution

Mages S.*, **Moriel N.***, ..., & Nitzan M. 2023. TACCO: Unified annotation transfer and decomposition of cell identities for single-cell and spatial omics. Nature Biotechnology.

Moriel N.*, Senel E.*, ... , Karaiskos N. & Nitzan M. 2021. NovoSpaRc: Flexible Spatial Reconstruction of Single-Cell Gene Expression with Optimal Transport. Nature Protocols.

TEACHING	Supervising assistant of Computational Methods in Molecular Biology Lab.	2024
	Teaching assistant of Introduction to Machine Learning.	2023
	Teaching assistant of Introduction to Artifical Intelligence.	2022
	Teaching assistant of Genomics.	2017
	Teaching assistant of Algorithms in Computational Biology.	2017

AWARDS AND	Council of Higher Education PhD fellowship.	2021 − 22
EXCELLENCE	CIDR PhD fellowship in core data science.	2020 − 22
PROGRAMS	M.Sc. student exchange program at University of Toronto.	2015 − 16
	Participated in Weizmann's excellence program, Ulpanot De-Shalit.	2014
	The Hebrew University Dean's Award.	2012 − 14
	IDF (Israeli Defense Force) Intelligence Excellence Award.	2010
	Participated in Weizmann's excellence program, ISSI.	2010
	Participated in Microsoft's excellence program, Hadarim.	2010
	Pilot training and military service in 8200.	2010 − 12