

Shay Ben Moshe

🏠 Tel Aviv, Israel | ✉️ shaybm9@gmail.com | 🔗 shaybm.com | 🌐 [shaybenmoshe](https://www.linkedin.com/in/shaybenmoshe)

Summary

Experienced mathematics and cyber-security researcher with a track record in software engineering, R&D team leadership and mentorship. Proficient at interdisciplinary research, spanning fields such as physics, computer science and statistics. Committed to making a significant positive impact, particularly through involvement in the effective altruism community.

Education

PhD in Mathematics, Hebrew University of Jerusalem 2019–2023

Advisors: Tomer Schlamk & Lior Yanovski. Topic: homotopy theory. Provided guidance to newer students in our research group and organized several seminars and workshops.

MSc in Mathematics, Hebrew University of Jerusalem 2016–2019

Magna cum laude. Advisor: Tomer Schlamk. First year during full-time military service.

BSc in Mathematics, Hebrew University of Jerusalem 2013–2016

Magna cum laude. Completed during full-time military service.

Experience

Software Engineer, Consultant (part-time) 02/2022–08/2022

Hired by the [Simons Foundation](#) to consult [arXiv.org](#)'s cloud migration and system redesign.

Statistical Researcher, KSM Research & Innovation – Maccabi 01/2021–06/2021

Conducted multiple projects related to COVID-19 for Israel's second-largest HMO.

Cyber-Security Researcher, Consultant (part-time) 08/2017–04/2021

R&D Team Leader, Israel Defense Forces, Unit 8200 08/2016–07/2017

Led the architecture, development and deployment of a large-scale project combining cyber-security and web expertise, used across the Israeli intelligence community, requiring coordination of stakeholders at all levels. The project is a core part of a wider effort that earned the Israel Defense Prize from the president of Israel.

Cyber-Security Researcher, Israel Defense Forces, Unit 8200 11/2013–08/2016

Full Stack Developer, Freelancer (part-time) 05/2009–06/2012

Self-taught while in highschool. Worked with many clients such as [Similarweb.com](#).

Honors & Awards

- 2022 **Part of Israel Defense Prize**, for contributions as an R&D team leader (see above)
- 2018 **Klein Prize for Excellence in MSc studies**, Hebrew University of Jerusalem
- 2017 **Dean List for MSc Studies**, Hebrew University of Jerusalem
- 2017 **Klein Prize for Excellence in MSc studies**, Hebrew University of Jerusalem
- 2016 **Personal Excellence Award**, Israel Defense Forces, awarded by sub-unit commander (Colonel)
- 2013 **Dean List for BSc Studies**, Hebrew University of Jerusalem

Publications & Preprints

Chromatic Cardinalities via Redshift with Shachar Carmeli, Tomer Schlank & Lior Yanovski (2023), preprint (arXiv:2310.00275).

Descent and Cyclotomic Redshift for Chromatically Localized Algebraic K-theory with Shachar Carmeli, Tomer Schlank & Lior Yanovski (2023), preprint (arXiv:2309.07123).

Naturality of the ∞ -Categorical Enriched Yoneda Embedding (2023), preprint (arXiv:2301.00601).

Higher Semiadditive Algebraic K-Theory and Redshift with Tomer Schlank (2021), accepted to *Compositio Mathematica* (arXiv:2111.10203).

Unusual Interactions of Pre-and-Post-Selected Particles with Yakir Aharonov & Eliahu Cohen (2014), *EPJ Web of Conferences* 70 00053 (arXiv:1208.3203).

SARS-CoV-2 spike IgG titres up to 137 days following BNT162b2 mRNA COVID-19 vaccination, Israel, February to May 2021 with Tal Patalon et al. (2022), *Euro Surveill.* 2022;27(40):pii=2100703.

Evaluating red blood cell distribution width from community blood tests as a predictor of hospitalization and mortality in adults with SARS-CoV-2: a cohort study with Tamar Banon et al. (2021), *Annals of Medicine*, 53:1, 1410-1418.

Survey of Behaviour Attitudes Towards Preventive Measures Following COVID-19 Vaccination with Daniella Rahamim-Cohen et al. (2021), preprint (medRxiv 2021.04.12.21255304).

A 1 to 1000 SARS-CoV-2 reinfection proportion in members of a large healthcare provider in Israel: a preliminary report with Galit Perez et al. (2021), preprint (medRxiv 2021.03.06.21253051).

Talks & Organization

Organized multiple seminars and workshops listed below. Given over 20 talks in various fields of mathematics. More details and a full list of my talks, including lecture notes, are available on [my website](#).

- 2023 **Caesarea Workshop on Topological Cyclic Homology**, with Lior Yanovski & Shai Keidar
- 2020 **Weil Conjectures Workshop**, with Shaul Barkan
- 2020 **Algebraic Topology Seminar**
- 2019 **Chromatic Homotopy Theory Seminar**
- 2019 **Caesarea Workshop Preparation Day**

Volunteer Experience

Volunteered in a number of projects with or related to the Israeli effective altruism community, including:

- Provided weekly managerial support to an EA Infrastructure Fund grantee from our local community.
- Conducted over 15 one-on-one career consultation sessions on skill-building and high-impact roles.
- Aided Unit 8200 in initiating climate change tech projects, culminating in a major hackathon.
- Linked IDF units to health providers, NGOs, and public offices to develop volunteering opportunities.