



Golan Ben-Dor

Urban Mobility Simulation Scientist & GIS Specialist

My work in urban simulation focuses on public transport and automated vehicles, primarily using the open-source JAVA-based Multi-Agent Transport Simulation (MATSim). I've developed models for Jerusalem and Tel Aviv and was fortunate to lecture at Tel Aviv University, where I also earned my Ph.D. As a lecturer, I crafted a GIS curriculum that includes SQL with spatial analysis and GIS algorithms. My core skills include MATSim, ArcGIS, QGIS, and SQL for spatial analysis, as well as programming in Java and Python. I aim to blend academic rigor, supported by my doctoral studies, with practical skills in urban mobility, data analytics, and GIS.

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📍 Tel Aviv, Israel

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☎ 0522937463

📅 28 October, 1987

🐙 github.com/geosimlab

📁 WORK EXPERIENCE

Transport Simulation Scientist & Spatial Data Analyst Geosimulation and Spatial Analysis Lab, Tel Aviv University, Israel

10/2016 - Present

Achievements/Tasks

- **Urban Transportation Research** Investigated automated vehicles' impact on urban transport, challenging norms.
- **Simulation Modeling** Used MATSim (open-sourced JAVA agent-based simulation) to create/validate and calibrate agent-based models for Jerusalem and Tel Aviv.
- **MATSim Algorithm Development:** Adapted algorithms for shared automated vehicles, improving urban transport simulations.
- **Scenario analysis** of future scenarios for shared mobility, emphasizing public transport.
- **Academic Contributions:** Presented at 20+ conferences worldwide and published papers.
- **Collaboration:** Worked with the Jerusalem Master Plan Team, "Ayalon Highways", and others to align research goals and methods.
- **Policy Influence:** Influenced transportation policy and built a professional network.
- **Media Engagement:** Featured in the popular press, including "[The Marker](#)", "[mako](#)", and "[Channel News 13](#)" enhancing public understanding of transportation research.
- **Awards and Scholarships:** Received over 13 awards and scholarships for academic and professional excellence.
- **Secured:** A \$400K budget and led the development of an agent-based model for future shared transport in Jerusalem for Jerusalem's master plan team.

Academic Lecturer

Porter School of the Environment and Earth Sciences, Tel Aviv University, Israel

10/2021 - 10/2022

Introduction for GIS (B), Course number: 03491608 ([link to syllabus](#))

Achievements/Tasks

- **Curriculum Development:** Crafted GIS curriculum with essential concepts and tools.
- **Lecturing:** Taught spatial data analysis, GIS algorithms, cartography, and GIS software.
- **Student Assessment:** Graded assignments to evaluate GIS understanding.

🎓 EDUCATION

Doctor of Philosophy

Porter School of the Environment and Earth Sciences, Tel Aviv University, Israel

2019 - 2023

Thesis name:

- Combatting Congestion: Robust Transportation Policy Evaluation in an Agent-Based Multimodal Simulation Model ([link to thesis](#))

🧠 SKILLS

AGENT BASED SIMULATIONS

MATSim

Java

ARCGIS

SQL emphasis on GIS

Python

Git

VIA

Microsoft Office

Photoshop

SPSS

MATLAB

QGIS

TransCAD

📖 NOTABLE PUBLICATIONS

Assessing the Impacts of Dedicated Bus Lanes on Urban Traffic Congestion and Modal Split with an Agent-Based Model (2018)

Procedia computer science

<https://doi.org/10.1016/j.procs.2018.04.071>

Determining an Optimal Fleet Size for a Reliable Shared Automated Vehicle Ride-Sharing Service. (2019)

Procedia Computer Science

<https://doi.org/10.1016/j.procs.2019.04.121>

Population Downscaling in Multi-Agent Urban Traffic Simulations: A Review and Case Study. (2020)

Simulation Modelling Practice and Theory,

<https://doi.org/10.1016/j.simpat.2020.102233>

Modal Shift and Shared Automated Demand-Responsive Transport: A Case Study of Jerusalem. (2022)

Procedia Computer Science

• <https://doi.org/10.1016/j.procs.2022.03.075>

PATRIC: A high performance parallel urban transport simulation framework based on traffic clustering. (2023)

Simulation Modelling Practice and Theory,

<https://doi.org/10.1016/j.simpat.2023.102775>



EDUCATION

Masters Thesis Completion

Porter School of the Environment and Earth Sciences, Tel Aviv University, Israel

2016 - 2018

Thesis name:

- Evaluating the Impacts of Dedicated Bus Lanes on Urban Traffic with an Agent-Based Model ([link to thesis](#))

Masters degree Specialization in Geo-informatics (Cum Laude)

Porter School of the Environment and Earth Sciences, Tel Aviv University, Israel

2014 - 2016

B.A.

Geography and the Human Environment / Multidisciplinary Studies, Tel Aviv University, Israel

2011 - 2014



MILITARY SERVICE

Israel Defense Forces, Spokesperson Corps, Israel (04/2006 - 04/2009)

- Military Reporter at the IDF Spokesperson



REFERENCES

Prof. Eran Ben-Elia

"Prof. Ben-Elia is the head of the Games Lab at the Department of Environmental, Geoinformatics, and Urban Planning Sciences, Ben-Gurion University. He has been one of my supervisors for both my master's thesis and my PhD."

Contact: benelia@bgu.ac.il - 0506584583

Dr. Ido Klein

"Dr. Klein is a researcher at the Eshed group, which manages transportation planning for Israel. I have collaborated and worked with Dr. Klein for almost two years on the Jerusalem MATSim model."

Contact: idshklein@gmail.com - 0509799900



NOTABLE AWARDS

Innovation in the field of intelligent transportation (10/2019 - 10/2023)

Shlomo Shmeltzer Institute for Smart Transportation, Israel

Excellence in research (06/2023)

TAU Research Center for Cities and Urbanism, Israel

Smart Mobility scholarship (10/2020 - 10/2023)

The Israeli Smart Transportation Research Center, Technion, Israel

Dr. Etel Fridman Memorial Excellence Scholarship (05/2018)

The Center for Economic and Social Research at the, Tel-Aviv-Jaffa Municipality, Israel



CERTIFICATES

Programming in Python "XTRA STUDENT" (2016)

28 academic hours

Programming in JAVA "XTRA STUDENT" (2017)

64 academic hours



VOLUNTEER EXPERIENCE

Lecturer

Science seeking Youth, Tel Aviv University, Israel

2022



LANGUAGES

English



Hebrew



INTERESTS



Autograph collection



Funko pop collecting



Ski



Sports



RPG Video games



Watching Documentaries



Film



DIY Smart home