

Date (6, 2024)

CURRICULUM VITAE AND LIST OF PUBLICATIONS

Personal Details

Achituv Cohen
Israel
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Education

Undergraduate and Graduate Studies

Ph.D. 2017-2021, Technion University, Transportation and Geo-information Department, Civil and Environmental Engineering Faculty, Sagi Dalyot, Evaluating Accessibility of Urban Spaces for Visually Impaired Pedestrians.

M.Sc. 2014-2017, Technion University, Transportation and Geo-information Engineering, Sagi Dalyot, Building a weighted graph based on OpenStreetMap data for routing algorithms for blind pedestrians.

B.Sc. 2010-2014, Technion University, Transportation and Geo-information Engineering.

Post-Doctoral Studies

2022-2024 - SPAR Lab, Department of Geography, UCSB, Trisalyn Nelson.

Professional Activities

Positions in academic administration (Departmental, Faculty and University)

2024 - present - Civil Engineering Department, Engineering Faculty, Ariel University, Lecturer.
2022-2024, UCSB, Department of Geography, Postdoctoral Fellow.

Educational activities

Courses taught in Recent Years

1. 2024 – Introduction to Geographical information system, Undergraduate, Ariel University.
2. 2023 - Spatial information systems for the engineer, Undergraduate, Ariel University, (jointly taught).
3. 2014-2018 and 2020, Fundamentals of Mapping and Surveying 1, Undergraduate, Technion, (jointly taught).
4. 2015 and 2020, Fundamentals of Mapping and Surveying 2, Undergraduate, Technion, (jointly taught).
5. 2017-2020, Geographic Information System, Graduated, Technion, (jointly taught).
6. 2016-2020, Computation and Quantitative Geoinformatics, Technion, (jointly taught).

7. 2019-2020, Introduction to Computerized mapping, Undergraduate, Technion, (jointly taught).
8. 2019, Geodatabases, Undergraduate, Technion, (jointly taught).
9. 2015 and 2017, GPS Surveying, Undergraduate, Technion, (jointly taught).
10. 2015 and 2016, Cadastral Survey, Undergraduate, Technion, (jointly taught).
11. 2016, Surveying Camp, Undergraduate, Technion, (jointly taught).
12. 2016, Workshop in Geographic Information Systems, Undergraduate, Technion, (jointly taught).

Awards, Citations, Honors, Fellowships

Honors, Citation Awards (including during studies)

1. 2023, State of Map US, Travel Grant, \$500
2. Best student paper award, the international symposium on Geospatial approaches to combating Covid-19, 2021, Florence, Italy.
3. 2021, Technion, 2020 Spring Semester Excellent Teacher.
4. 2020, Planning and Budgeting Committee, Data Science Grant, \$5000
5. 2019, State of Map US, Travel Grant, \$500
6. 2019, ICC2019, Travel Grant, \$500
7. 2018, Faculty of Civil and Environmental Engineering, Technion, 2nd prize poster on the faculty research day.
8. 2018, Faculty of Civil and Environmental Engineering, Technion, Award for a pioneering and innovative master's thesis in the fields of geo – information.
9. 2017, Technion, Social Hub Grant, \$1500
10. 2104, Faculty of Civil and Environmental Engineering, Technion, Academic excellence
11. 2012-2013, Faculty of Civil and Environmental Engineering, Technion, Dean's List

Scientific Publications

Published –

Angel, A., **Cohen, A.**, Nelson, T., & Plaut, P. (2024). Evaluating the relationship between walking and street characteristics based on big data and machine learning analysis. *Cities*, 151, 105111. (journal impact factor – 6.7, journal ranking – URBAN STUDIES =3/43, Q1)

Cohen, A., Nelson, T., Zanotto, M., Fitch-Polse, D. T., Schattle, L., Herr, S., & Winters, M. (2024). The impact of bicycle theft on ridership behavior. *International Journal of Sustainable Transportation*, 1-11. (journal impact factor – 3.9, journal ranking – ENVIRONMENTAL STUDIES =48/128, Q2)

Cohen, A., Dalyot, S., Natapov, A., & Nelson, T. (2024). How accessible are cities for visually impaired pedestrians? A case of Greater London. *Environment and Planning B: Urban Analytics and City Science*, 23998083241256402. (journal impact factor – 3.5, journal ranking – GEOGRAPHY =24/86, Q2)

Angel, A., **Cohen, A.**, Dalyot, S., & Plaut, P. (2023). Estimating pedestrian traffic with Bluetooth sensor technology. *Geo-spatial Information Science*, 1-14. (journal impact factor - 6, journal ranking – Remote Sensing=8/34, Q1)

Natapov, A., **Cohen, A.**, & Dalyot, S. (2024). Urban planning and design with points of interest and visual perception. *Environment and Planning B: Urban Analytics and City Science*, 51(3), 641-655. (journal impact factor – 3.5, journal ranking – GEOGRAPHY =24/86, Q2)

Angel, A., **Cohen, A.**, Dalyot, S., & Plaut, P. (2023). Impact of COVID-19 policies on pedestrian traffic and walking patterns. *Environment and Planning B: Urban Analytics and City Science*, 50 (5), 1178-1193, <https://doi.org/10.1177/23998083221113332> . (Citations - 4, journal impact factor - 3.5, journal ranking - 24/86, quartile - Q2)

Cohen, A., & Dalyot, S. (2021). Route planning for blind pedestrians using OpenStreetMap. *Environment and Planning B: Urban Analytics and City Science*, 48(6), 1511-1526, <https://doi.org/10.1177/2399808320933907> . (Citations - 22, journal impact factor - 3.5, journal ranking - 24/86, quartile - Q2)

Cohen, A., & Dalyot, S. (2020). Machine-learning prediction models for pedestrian traffic flow levels: Towards optimizing walking routes for blind pedestrians. *Transactions in GIS*, 24(5), 1264-1279, <https://doi.org/10.1111/tgis.12674> . (Citations - 8, journal impact factor – 2.4, journal ranking - 43/86, quartile - Q2)

Citation Index

H-index (Google Scholar): 5

Total number of citations of all articles (Google Scholar): 82

Articles

Refereed articles and refereed letters in scientific journals, running numbers

1. Jiahua Chen, Peter Kedron; Trisalyn Nelson; Dan Willett; **Achituv Cohen**; Colin Ferster. “Bike Network Connectivity and Safety in Two Midsize California Cities. *Computers, Environment and Urban Systems* (Under Major Revision, journal impact factor – 6.8, journal ranking – GEOGRAPHY - 6/86, quartile – Q1)

Published scientific reports and technical papers

1. Trisalyn Nelson, Caitlyn Linehan, Achituv Cohen, SPAR lab, “Improving the denominator of OTS rankings for bicycle and pedestrian safety”, September, 2023,
2. WalCycData Technology Platform (WalCycData, DEL05), EIT Urban Mobility, 2021.
3. Pedestrian walking patterns and traffic in Tel-Aviv, Israel, during COVID -19 quarantine and exit-quarantine policies, using BT sensor technology, The Israeli Center for Promoting Research in Smart Transportation, 2021.

Unrefereed professional articles and publications

Dalyot, S., & **Cohen, A.** (2022). Designing accessible walking routes for people with a visual impairment. *Frontiers in Young Minds*, 10, 853975.

Other Publications

1. **Cohen, Achituv**, Trisalyn Nelson, Dillon Fitch-Polse, Elizabeth Schattle, Seth Herr, Moreno Zanutto, and Meghan Winters. "Patterns in Bike Theft and Recovery." Findings (2023).
2. Holland, A. B., **Cohen, A.**, Faerman, A., Nelson, T. A., Wright, B., Kumar, R. G., ... & Juengst, S. B. (2023). Branching out: Feasibility of examining the effects of greenspace on mental health after traumatic brain injury. *Dialogues in Health*, 2, 100129.
<https://doi.org/10.1016/j.dialog.2023.100129>
3. **Cohen, A***. (2017). Building a weighted graph based on OpenStreetMap data for routing algorithms for blind pedestrians. Technion-Israel Institute of Technology.

Lectures and Presentations at Meetings and Invited Seminars not Followed by Published Proceedings (last five years)

Presentation of papers at conferences/meetings

1. Natapov, A, Dalyot, S, **Cohen, A** (2024). POI VizNet: New QGIS Tool to construct Visibility Networks in Cities, ISPRS Technical Commission IV Symposium 2024, October 2024, Perth, Australia. To be Presented.
2. **Cohen, A**, Nelson, T, (2024). From Complexity to Clarity: Simplifying OpenStreetMap Data for Improved Active Transportation Analysis, State of Map, September 2024, Nairobi, Kenya. To be Presented.
3. **Cohen, A.** (2023), Enhanced Simplified Street Network Representation for Active Transportation Modeling using OpenStreetMap Data, UC GIS WEEK, online, US.
4. **Cohen, A.** (2023), Generating a Centerline Street Network from OpenStreetMap Data: The Active Transportation Perspective, APCG 2023, Ventura, US.
5. **Cohen, A.** (2023), Simplifying OpenStreetMap Data: Reducing Multi-Lane Streets to Single Lanes, State of Map US, Richmond, US.
6. **Cohen, A.**, Natapov, A., & Dalyot, S. (2022). Leveraging OpenStreetMap to investigate urban accessibility and safety of visually impaired pedestrians. Proceedings of the Academic Track at State of the Map 2022, Florence, Italy, 19-21 August 2022, DOI: 10.5281/zenodo.7004666.
7. Pnina Plaut, Avital Angel, Sagi Dalyot, **Achituv Cohen**, 2021. Impact of COVID-19 policies on pedestrian traffic and walking patterns. The international symposium on Geospatial approaches to combating Covid-19, December 13-14, Florence, Italy (Best student paper award).
8. **Cohen, A.**, Dalyot, S., & Natapov, A. (2021). Machine Learning for Predicting Pedestrian Activity Levels in Cities. In A. Basiri, G. Gartner, & H. Huang (Eds.), *LBS 2021: Proceedings of the 16th International Conference on Location Based Services* (pp. 124–129). <https://doi.org/10.34726/1758>.
9. **Cohen, A.** (2021), Evaluating Accessibility of Urban Spaces for Visually Impaired Pedestrians, The Second Annual Conference of Navigation and Accessibility Research, Ariel, Israel (In Hebrew).
10. **Cohen, A.** (2019), Machine Learning-Based Models and OSM Data to Calculate Pedestrian Density in Space, The Israeli Geographical Union Conference, Haifa, Israel (In Hebrew).

11. **Cohen, A.**, and Dalyot, S. (2019): Pedestrian Traffic Flow Prediction based on ANN Model and OSM Data, (2019) Proc. Int. Cartogr. Assoc., 2, 20, <https://doi.org/10.5194/ica-proc-2-20-2019>, 2019.
12. **Cohen, A.**, (2019) Machine Learning Algorithms to Enrich OSM in Essential Data for Blind Pedestrian Route Planning, From Imaging to Map and Object, Tel Aviv, Israel, 2019 (In Hebrew).
13. **Cohen, A.**, (2018), Building a Weighted Graph based on OSM Data for Routing Algorithms for Blind Pedestrians, “Spatial Information Technology and the challenge of social planning” international seminar, Haifa, Israel.

Seminar presentations at universities and institutions

2023, Civil Engineering, Ariel University

Transportation and Geo-information Engineering, Technion University. 2018, 2021

2019, Department of Geography, Tel Aviv University

Synopsis of research, including reference to publications and grants in above lists

Review Work for Scientific Manuscripts

1. Cartography and Geographic Information Science, Taylor and Francis
2. Environment and Planning B: Urban Analytics and City Science, Sage
3. PLOS One, PUBLIC LIBRARY SCIENCE
4. Journal of Disaster Research, FUJI TECHNOLOGY PRESS LTD
5. Applied Science, MDPI
6. ISPRS International Journal of Geo-Information, MDPI
7. journal of Location Based Services, TAYLOR & FRANCIS LTD
8. Sustainability, MDPI
9. Remote Sensing, MDPI
10. Transactions on Intelligent Transportation Systems, IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC