

Shmuel Shomrat

Geospatial Specialist

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SUMMARY

Experienced geospatial analyst with 3+ years in GIS, remote sensing, and spatial data analysis across transportation, agriculture, and environmental monitoring. Skilled in Python, SQL, and geospatial tech, with proven experience in automating ETL workflows, processing satellite imagery, and providing data insights for strategic decisions. A strong communicator with strong analytical skills. A team player with experience leading projects, training stakeholders, and translating technical findings into actionable recommendations.

PROFESSIONAL EXPERIENCE

2025 - Present **Product Manager & Developer - Consultant, Mental Source, Pittsburgh, PA**

- Lead the build of an AI-assisted research tool using Perplexity API and Python, that automatically finds, evaluates, and structures mental-health app data across the web; expanded the database by 500%+, enabled weekly refreshes, and cut manual research time from days to hours.
- Use Agile and Scrum to manage product strategy, define roadmaps, plan bi-weekly sprints, prioritize backlog, and add user stories.
- Create a pipeline to run A/B tests on prompts (prompt engineering), which increased data quality by ~15%.

2025 - Present **GIS Consultant, MATI, Tel-Aviv, Israel**

- Developed and implemented temporary bus reroutes during road construction, analyzing transit schedules and notices, assessing routes in QGIS and Google Maps, and creating detour maps and stop change lists to ensure coverage and schedules.
- Delivered detour plans on tight timelines, meeting all deadlines by quickly comparing routes to constraints and creating ready-to-implement instructions for operations teams.
- Designing and building a public-transit detour-planning automation tool: developed ETL processes to ingest GTFS into PostgreSQL/PostGIS; used Python with ML models to optimize detour routes and learn planner preferences; exposed results via a Mapbox frontend, targeting a reduction in planning effort from days to hours.

2023 - 2024 **Research Associate, Columbia University, New York, NY**

- Shipped 3+ production features to Lightning Pose (open-source, Python-based deep-learning app), expanding core functionality and improving UI/UX for research and annotation workflows.
- Built new Python modules and integrated them into a Streamlit front end, enabling richer interaction/visualization and improving usability by >50%, while consolidating multi-step script reviews into a single interactive workflow.
- Improved product documentation (install guides, feature how-tos) and produced 12 YouTube tutorials with thousands of cumulative views, reducing onboarding friction and boosting self-serve adoption.

2022 - 2023 **HarrisX, New York, NY**

Technical Product Manager (2023-2023)

- Owned and shipped the company's #1-selling SaaS analytics dashboard in ThoughtSpot and Power BI, enabling real-time decision-making across client accounts.
- Led cross-functional team and stakeholder communications, managed product roadmap and backlog in Asana, and embedded 5+ analytics dashboards into the website.
- Delivered 5+ client onboarding & training sessions (live workshops), shifting users to self-serve analytics and reducing support load and ad-hoc requests by 30%.
- Built spatial ETL pipelines in Python (GeoPandas) to integrate open-source datasets into Telephia, a consumer telemetry mobile app; instituted QA/QC validation and replaced paid feeds, saving around \$20,000 in data costs annually.

Research Analyst (2022-2023)

- Hands-on researcher with multimethod experience in market research and market analysis; accountable for research design, data collection, advanced statistical analysis using SPSS and Excel, and delivery of insights.

- Supported over 20 research projects with 1-10K completes, from design to delivery for public and private clients like Meta, Google, healthcare firms, and T-Mobile. Contributed to questionnaire design, sampling, fieldwork monitoring, and executive reports.
- Ran a quarterly KPI program on brand exposure and public opinion; built scorecards and trend analyses using Q Research Software, SPSS, and Excel; used QGIS geo-cuts to reveal regional patterns; briefed stakeholders to adopt strategies and improve market positioning; automated analyses, reducing insight time from hours to minutes.
- Assisted with survey/data QA (logic checks, piping/label consistency, duplicate detection) in SPSS/Excel; collaborated with a cross-functional, remote team (senior researcher, field ops) to triage issues, communicate fixes, and keep projects on schedule, maintained QA checklists and status updates, lowering rework by ~25% and helping teams meet deadlines.

2017 - 2021

Tel Aviv University, Tel Aviv, Israel

Research Associate (2017-2021)

- Remote sensing specialist in a food-security program supporting smallholders in Punjab, India; introduced precision agriculture tools for crop monitoring and yield prediction. Built Python (Scikit-learn) models on multispectral & SAR imagery (Planet SkySat, Sentinel-1/2, Landsat 8) and engineered ETL pipelines in Google Earth Engine to process high-volume imagery, improving storage/compute efficiency by >2× and achieving ~80% model accuracy.
- Managed and developed all geospatial data in a database, created scripts to automate tasks in ArcGIS using Model Builder and dedicated Python libraries (GeoPandas, Rasterio).
- Participated in and assisted peers during a field study, collecting and measuring soil and plant spectra with a spectrometer for soil-health/composition analysis and plant classification; handled data preprocessing and QA/QC (calibration, de-noising, outlier checks). Processed drone imagery in Pix4D to produce orthomosaics and 3D products (DEM/DTM), then analyzed terrain and patterns in ArcGIS Pro and QGIS to support ongoing research.

Teaching Assistant (2019-2021)

- Delivered lectures and hands-on labs in Geoinformatics, Research Methods, and Advanced GIS - teaching core GIS fundamentals and advanced ArcGIS workflows using Network Analyst, Spatial Analyst, and ModelBuilder (automation/reproducibility).
- Explained theoretical concepts in plain language and guided students through step-by-step exercises, created/maintained lab guides and checkpoints, and supported learners during labs and Q&A. Had highly positive feedback with a 100% student passing rate.

EDUCATION

2017 - 2021

M.A. in Geography (Remote Sensing and GIS), Graduated with Honors, Tel Aviv University, Israel

- Dissertation: "Multisensory Approach for Crop Monitoring in a Greenhouse Environment".
- Leveraged remote sensing technologies and 3D modeling to improve the accuracy and efficiency of greenhouse crop monitoring, advancing precision agriculture research.

2011 - 2015

B.Sc. in Marine Science, Ruppin Academic Center, Michmoret, Israel

SKILLS & TOOLS

- **Programming & Data:** Python, SQL, SPSS, Q Research Software, MS Office (Word, Excel, PowerPoint, Outlook)
- **Geospatial Tools:** Esri's ArcGIS suite(ArcGIS Pro, ArcGIS Online), QGIS, Google Earth Engine, PostgreSQL, PostGIS, GeoPandas, GDAL, Scikit-learn, ENVI, Pix4D, GIS database design
- **Product & Visualization Tools:** Streamlit, Tableau, ThoughtSpot, Power BI, Mapbox GL JS, Leaflet, Asana
- **Soft skills:** Stakeholder communication, Strong multitasking skills to manage multiple projects simultaneously, hypothesis-driven problem solving, attention to detail, Ability to translate application concepts into system applications, time management

Languages:

English - Fluent, **Hebrew** - Native