

George Kontsevik | Data Scientist (Geospatial)

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About Me

- Data Scientist (Geospatial) with 5+ years of experience in commercial and R&D development.
- I work with **Python** using **OSMnx**, **PySAL**, and **NetworkX**; I am proficient in **SQL** and **Git**.
- I translate complex data into **practical solutions for businesses** and cities.
- I specialize in **spatial data analysis**, predictive modeling, and evaluating development scenarios for products and services.
- My projects include **forecasting revenue for a retail chain**, **modeling demand** for services, and analyzing and optimizing transportation routes.

Work Experience

ITMO Institute of Design and Urban Studies

St. Petersburg, Russia

R&D laboratory for developing IT solutions for the urban environment, executive partner of Sber, OTS Lab, MLA+, and Urbanica.

Data Analyst / Data Scientist

September 2021–August 2026

- **Developed a model for forecasting revenue and selecting a retail chain scaling strategy**: compared unified and separate models for different store formats, identified key drivers, and formulated an approach to ranking “location × format × product assortment × operating hours” scenarios.
- **Developed three sales forecasting scenarios** across 12 product categories based on **time series** and **linear regression** applied to historical data with controlled error, which enabled the **automation of the ETL data processing pipeline**. *Databricks, Scikit-learn*
- **Improved the efficiency of transportation route optimization** by 20% based on key passenger and operator cost metrics, **ensuring the method’s resilience** to changes in the road network structure through spatiotemporal analysis of the UDS graph.
- **Identified priorities for transportation network development** and logistics hub placement to **improve service accessibility** and **logistics efficiency** based on the analysis of 32 **spatial graphs**, taking into account transportation infrastructure and climatic factors. *SciPy, PySAL, GeoPandas, Scikit-learn, PostgreSQL (PostGIS) – 200 GB of spatiotemporal data*
- **Accelerated the generation of courier routes** by up to 80 times while maintaining **controlled accuracy** by **clustering** the road graph and reducing the search area for the shortest path. *NetworkX, python-Louvain, (contraction hierarchies, TSP) – published in EPJ Data Science*

Work Experience *(continued)*

- **Increased the granularity of territorial analysis** by developing a method for dividing areas into blocks using open data; increased the number of block polygons by 30% compared to official sources and accelerated processing speed by a factor of 10 by optimizing spatial operations.
- **Automated the selection of network node characteristics to maximize incoming traffic** by training a **CatBoost model** on quality-of-life parameters for settlements. *CatBoost, Optuna, h3, Docker, FastAPI, PostgreSQL (PostGIS)*
- **Improved the method for estimating the population** of each building in the city by **reconstructing missing data** on building heights with an accuracy of one floor and an error of less than 15% using a **decision tree** and **spatial autocorrelation**. *Scikit-learn, PySAL, OSMnx, Jenksy*
- Assessed changes in the load on social infrastructure by developing a method to calculate the **N-minute accessibility** of areas, taking into account future development; applied this approach to the planning of clinics, schools, and other social facilities.
- **Reconstructed missing building parameters** in cities (number of stories, residential vs. non-residential, number of residents), with an error margin of less than 15%, using SOTA models, graph neural networks (GNNs), and spatial statistics (Moran's I).

Research and Teaching Activities

- Developed and taught three cohorts of a master's-level course on spatial analysis in English for urban planning students; taught raw data processing, spatial analysis, and modeling from the ground up.
- Participant in international scientific conferences, including top-tier A* conferences in the IT field (AAAI'26 AI for Urban Planning Workshop).
- Author of 12 scientific publications, including 3 in Q1 journals and 2 in Q2 journals. [Link to Scholar.](#)

Education

Doctoral Program: Management in Organizational Systems, ITMO University	2023–2026
Master's Program: Applied Informatics, ITMO University	2021–2023

Skills

Python, SQL, Git, GeoPandas, Shapely, OSMnx, NetworkX, PySAL, PostGIS, Linux.