BABÄK Firoozi Fooladi

Data Analyst / Data Scientist

A versatile and proactive problem solver with a strong ability to quickly adapt and learn new skills. With a foundational knowledge in spatial data, GIS, econometrics, statistics, data science, and ever growing expertise data processing, and visualization, I excel at creating analytics, and insights to provide solutions at any levels of complexity. My core strength lies in my ability to acquire new knowledge rapidly, adabt to workflow and collaborate with others.

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📍 Espoo, Uusimaa, Finland

SKILLS

Technical Skills

R	Postgres	Econometrics
Python	DuckDB	Biostatistics
Julia	MangoDB	Machine Learning
SQL	SQLite	Spatial Data Science
	PostGIS	ArcGIS
		QGIS

Soft Skills

Self-management	Data Visualisation
Teamwork	Data Transformation
Communication	Data Validation
Graphic Design	

EXPERIENCE

Doctoral Researcher | Aalto University | Sep 2020 - Dec 2024

As a quantitative researcher, I am proficient in advanced statistical modeling techniques. I have honed my skills in R, Python, Julia, and Stata, enabling me to implement complex models and visualizations efficiently and effectively across various platforms tailored to specific research needs.

Survival models + Spatial data:

For my first two papers, I curated a novel dataset by integrating data from diverse sources, including web feature services, relational databases, open statistical data, and map images. I combined these datasets using spatial and index-based relations to create a resource suitable for my research. In my research on the impact of land policies on housing plan implementation, I employed survival models, drawing inspiration from biostatistical methodologies. My strong foundational understanding of data generation processes enabled me to adapt these models effectively to my specific research context.

Cointegration + Panel data:

The topic of my third paper is about the Finnish housing market. The research requires extensive time-series analysis to investigate the phenomenon on short-term and long-term variations in housing market. To that aim, my expertise have grown in panel datasets, advanced time-series, vector error corrections, cointegration, and much more.

RAG implementation for planning documents

For one of my study topics, I had to process over 11,000 pdf documents and HTML files outlining the specifics of land use plans in the Netherlands. I created a pipeline that classifies these files and extracts the section of interest (economic feasibility). The retrieved text is then translated from Dutch to English by Helsinki NLP. Finally, a personalised prompt is given to numerous LLM models, including Gemma2, Llama3.2, Qwen2.5, Granite, and Phi3.5, to answer specific questions. The responses were later utilised to investigate the effect of infrastructure financing techniques on the rate of housing development.

Data analytics Engineer | Qissa kaupunkisuunnitteluanalytiikka Oy | Sep 2020 - Present

I used my Spatial data science skill into play to produce dashboards and functions for the startup. I provided data preparation infrastructure for one of the client so they can perform CO_2 emission estimation in U.S., Norway, Sweden and Finland. Dashboards contained maps and 3D visualisations.

Public Transit Service area:

In this project, the client's address and access time are used to retrieve coordinates from the HERE API. My spatial analysis algorithm identifies nearby public transportation stations, minimizing HSL API calls to maintain both accuracy and efficiency. Service areas are then generated via the HERE API and visualized with Streamlit.

Address → Location → Stations Access time → Service Area → Visualisation

Planning assistant | WSP Finland Oy | Nov 2018 - Jun 2021

At WSP Consulting, I adapted to Finnish work culture while producing spatial analyses, GIS, cartography, visualizations, and 3D city models. I designed and conducted a pedestrian route choice forecast to estimate changes in pedestrian flow after project implementations. Additionally, I supported other units with spatial data preparation and cartography. At peak workload, I managed seven projects across various units. This role highlighted the need for a structured approach to project data that accommodates diverse datasets and documents, usable by non-data professionals, which inspired my path toward data engineering.

EDUCATION

Aalto University
Sep 2020 - Present

Doctoral Candidate in Real estate Economics
Land policies, Housing Market, Land market, Econometrics

Aalto University
Sep 2018 - Jul 2020

Masters of Urban Studies and Planning in Real estate
GPA: 4.1 / 5 - Graduated with Honors

University of Tehran
Sep 2011 - Jun 2015

Bachelors of Town planning
GPA: 16.67 / 20 - Academic Excelence

OTHER SKILLS

Painting	Graphic design
Music	Accounting
Economics	3D design