

Babäk Firoozi Fooladi

[LinkedIn](#) | [GitHub](#) | [StackOverFlow](#)

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Generative AI engineer

I am an expert in generative data and a Ph.D. candidate, possessing extensive experience in large language model data solutions and agentic AI. I possess expertise in data modelling, agent design, and the integration of retrieval-augmented and cache-augmented generation for the extraction of structured data. I specialise in developing data extraction and deploying advanced statistical and machine learning models. I am proficient in Python, R, and SQL, and I have a proven ability to optimise workflows and deliver actionable insights through data-driven solutions.

Technical Skills

Python: ●●●○○	R: ●●●●○	Julia: ●●○○○	SQL: ●●●●○
AZURE: ●●○○○	Econometric: ●●●●○	Data Viz.: ●●●●●	Spatial data: ●●●●●
PostgreSQL: ●●●○○	SQLite: ●●●○○	DuckDB: ●●●●○	MongoDB: ●●○○○
Data Analysis: ●●●●○	ArcGIS: ●●●○○	QGIS: ●●●●○	Excel: ●●●●○
RAG: ●●●●●	CAG: ●●●●○	Feature Extraction: ●●●●○	LaTeX: ●●●●●
Visio: ●●●●○	PowerBI: ●●○○○	Tableau: ●●●○○	Git: ●●●●○

Soft Skills

Team work: ●●●○○	Self-organised: ●●●○○	Project management: ●●●●○
Accounting: ●●○○○	Quality control: ●●●●○	Visual communication: ●●●●●

Experience

DATA ANALYTIC ENGINEERING <i>Self-Employed Apex-Heat – Startup</i>	Jan 2025 – Present <i>Part-time – Espoo, Finland</i>
<ul style="list-style-type: none">Resolving technical debt.Consulting the implementation of Generative AI.Migrating from Pandas to Polars to improve the efficiency and calculation time.Improving the design pattern, and writing documentations.Adjusting an improving data processing test coverage and testing methods.Optimising the SQL queries to improve response time.	
Ph.D. Candidate <i>Aalto University</i>	Sep 2020 – Dec 2024 <i>Full-time – Espoo, Finland</i>
<ul style="list-style-type: none">Processing HTML and PDF files and implementing RAG to extract structured data from the land use plan documents.Applying Econometric, ML and data analysis for quantitative research.Designed and deployed database in PostgreSQL and DuckDB data lake for research data in our team.Preparing and updating visualisations for lecture and presentation.Deploying and maintaining AZURE functions to store real estate data for research. Scrapping websites for property advertisements.Self-taught programming skills, and further obtained formal education in data science.	
Data Analytics Engineer <i>Qissa kaupunkisuunnitteluanalytiikka Oy – Startup</i>	Sep 2020 – Dec 2024 <i>Part-time – Espoo, Finland</i>
<ul style="list-style-type: none">Designing data pipeline to gather data form REST APIs, cleaning, Geo-coding and storing in accordance to the specifications requested by clientsCreating Spatial data dashboard for spatial network analysis back-end. The analysis used HSL, HERE and HSY APIs to gather and process the data and perform spatial network analysis.	

Planning Assistant
WSP Finland Oy

Nov 2018 – Jun 2021
Part-time – Helsinki, Finland

- Performing **Spatial Data analysis**, Processing and storing spatial.
- Performing network analysis for pedestrian route choice forecast. The analysis was fine tuned to existing situation, and then used to forecast pedestrian flow after urban development
- Preparing analysis, graphs, maps and data **visualisations** for stakeholders, projects managers and clients.
- Providing **GIS analysis** to transport engineers, landscape designers, urban planners and architects.
- Programming and producing dynamic 3D model of the cities using ESRI CityEngine

GIS Operator
University of Tehran

Aug 2015 – May 2016
Part-time, Tehran, Iran

- Gathering, processing and preparing GIS data for urban designers to implement and test new directives for urban design in Tehran City

Chief Operating Officer
Airs Dorsa Industries

Aug 2011 – Aug 2018
Full-time, Karaj, Iran

- Accounting, cost calculation, financial analysis, human resources and BI
- Provided in house **graphic design**, CAD and technical solutions for clients.
- Negotiating with the clients regarding their designs, pricing and production.
- Managing timelines of production, maintenance and order delivery.
- Admin duties, supervision duties, high-frequency welding, silk screen printing.

Education

Aalto University
Doctor of Philosophy in Technology, Real Estate Economics

Espoo, Finland
Sep 2020 - Present

Aalto University
MSc. (Tech.) Urban Studies and Planning in Real Estate Economics

Espoo, Finland
Sep 2018 - Jul 2020

University of Tehran
BA. Town Planning

Tehran, Iran
Sep 2011 - Jun 2015

Machine Learning | Statistical models | Econometrics

Uni-variate time-series: ●●●○○	VAR time-series: ●●●○○	Co-integration time-series: ●●○○○
multi-variate time-series: ●●●○○	OLS: ●●●●●	IV-OLS: ●●●●○
Panel data: ●●●●○	Generalised Method of Moments: ●●●●○	Generalised linear models: ●●○○○
Spatial econometrics: ●●●●○	Survival/time-to-event: ●●●●●	Additive hazard models: ●●●●●

Volunteer Work

- DataTribe collective moderator, contributor
- DataTribe collective speaker: Spatial data analysis, spatial data engineering
- Helsinki Data Week volunteer, contributor