

# Babäk Firoozi Fooladi

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## Data Analytics Engineer | Data Engineer

I see data as a river flow, which we experts in the realm of data change its path and direction. I'm a problem solver who takes pride in being adaptable and eager to learn new skills. My background includes spatial data, GIS, econometrics, statistics, and data science, and I'm continuously expanding my knowledge in data processing and visualisation. I strive to develop analytical solutions for various challenges, and I'm keen to pursue opportunities that will allow me to grow further in data engineering and data science.

### Technical Skills

|                 |                   |                          |                     |
|-----------------|-------------------|--------------------------|---------------------|
| Python: ●●●     | R: ●●●●           | Julia: ●●                | STATA: ●●●●         |
| AZURE: ●●       | Econometric: ●●●● | Data Viz.: ●●●●●         | Spatial data: ●●●●● |
| PostgreSQL: ●●● | SQLite: ●●●       | DuckDB: ●●●●             | MongoDB: ●●         |
| ETL/ELT: ●●●●   | PowerBI: ●●       | SQL: ●●●                 | Excel: ●●●●         |
| RAG: ●●●●●      | LLM/NLP: ●●●●     | Feature Extraction: ●●●● | AI Agents: ●●●●●    |

### Soft Skills

|                             |                          |                             |
|-----------------------------|--------------------------|-----------------------------|
| Team work: ●●●              | Self-organised: ●●●      | Project management: ●●●●    |
| Accounting: ●●              | Quality control: ●●●●    | Visual communication: ●●●●● |
| Quantitative research: ●●●● | Prompt engineering: ●●●● |                             |

### Experience

|  |   |
|--|---|
| <b>DATA ANALYTIC ENGINEERING</b><br><i>Self-Employed   Consultant</i><br>offer an extensive range of data engineering, analytics, and business intelligence services tailored to your needs. With a focus on spatial data, urban environments, and the complexities of the built environment, I ensure that my expertise translates into actionable insights.<br>Specialising in ETL/ELT processes, I adeptly parse and process diverse data types, presenting results that are not only clear but also aligned with your objectives.  | Jan 2025 – Present  <br><i>Part-time – Espoo, Finland</i> |
| <b>Optimisation Project</b><br>Apex-Heat Espoo, Finland  | Jan 2025 – Mar 2025                                       |
| <ul style="list-style-type: none"><li>Resolving <b>technical debt</b>. Improving the efficiency of the data pipelines.</li><li>Migrating from <b>Pandas</b> to <b>Polars</b> to improve the efficiency and calculation time.</li><li>Improving the design pattern, and <b>writing documentations</b>.</li><li>Retaining proper vesion control to smooth migration to Polars</li><li>Adjusting an improving data processing test coverage and <b>testing</b> methods.</li><li><b>Optimising</b> the SQL queries to improve response time.</li><li>Resolving the technical debt in the data pipeline codebase.</li></ul> |   |
| <b>Building Database</b><br>Apex-Heat Espoo, Finland   | Dec 2025 – Present  |
| <ul style="list-style-type: none"><li>Acquiring and processing building data from Finland</li><li>Modelling and enhancing the building data models in the pipeline</li><li>Expnding data coverage to include additional countries (Sweden, Norway, Netherlands)</li><li>Designing and implementing connection to Finnish building data API (Ryhti)</li></ul>   |   |

### Ph.D. Candidate

Aalto University

Sep 2020 – Present  
Full-time – Espoo, Finland

- Deploying and maintaining **AZURE functions** to store real estate data for research by scanning and scrapping websites for property advertisements.
- Designing data-pipelines for local AI to extract features from text and structured data.
- Applying Econometric, ML, time-series and data analysis for **quantitative research**.
- Processing HTML and PDF files and implementing **RAG** to extract structured data from the land use plan documents.
- Preparing and updating **visualisations** for lecture and presentation.
- ETL/ELT processes with data stewardship duties to acquire, maintain and provide research data.
- Self-taught programming skills, and further obtained formal education in data science.

### Research assistant

Aalto University Full-time – Espoo, Finland

Jun 2019 – Sep 2019

- Working on an **Agent Based Modelling (ABM)** solution to simulate parking pressure in Otaniemi campus area.
- Collaborating MIT CityLab project on agent based modelling simulation.
- implementing simulations in GAMA Platform

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### Data Analytics Engineer

Qissa kaupunkisuunnitteluanalytiikka Oy – Startup

Sep 2020 – Dec 2024  
Part-time – Espoo, Finland

- Designing data pipeline to gather data from REST APIs, cleaning, **Geo-coding** and storing in accordance to the specifications requested by clients
- Creating **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**.
- Extracted, processed and served census data from US, Denmark, Sweden and Finland for calculating CO<sub>2</sub> emission from commuting.

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### 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.
- Setting up ArcGIS Online platforms for **maritime** planning.
- Programming and producing dynamic 3D model of the cities using ESRI CityEngine

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### 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

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### Chief Operating Officer

Airsa 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.
- Auditing, accounting, process and inventory management.
- Admin duties, supervision duties, high-frequency welding, silk screen printing.

Education

|   |                                       |
|---|---------------------------------------|
| <b>Aalto University</b><br><i>Doctor of Philosophy in Technology, Real Estate Economics</i>   | Espoo, Finland<br>Sep 2020 - Present  |
| <b>Aalto University</b><br><i>MSc. (Tech.) Urban Studies and Planning in Real Estate Economic</i><br>GPA: 4.1/5, Graduated with honours | Espoo, Finland<br>Sep 2018 - Jul 2020 |
| <b>University of Tehran</b><br><i>BA. Town Planning</i><br>GPA: 16.67/20, Academic excellence   | Tehran, Iran<br>Sep 2011 - Jun 2015   |

Machine Learning | Statistical models | Econometrics

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

Volunteer Work

- DataTribe collective moderator, contributor
- DataTribe collective speaker: Spatial data analysis, spatial data engineering
- Helsinki Data Week volunteer (2024 & 2025), contributor

Disclaimer: This resume is designed with  $\LaTeX$ , and contains white text for the skill ratings to increase the accuracy of automated scanning and processing. The white text represents the truth and does not present any additional information that is not included in the visible text.