

Ossi Lehtinen ossi@ocon.fi +358 50 3797 555

### Ossi Lehtinen, PhD

#### **Data and Science Professional**

April 11, 2025

**About Me** A highly experienced data and AI professional with a proven track record of delivering effective, robust, and well maintainable solutions to problems across a wide range of fields, ranging from ecom AI language understanging to Bayesian econometric modeling. Passionate about problem-solving and making tricky problems disappear.

It is always great fun tackling a new project, may it be building a question answering AI engine based on generative language models for a Southeast Asian startup, hyper-tailoring the store assortments of Finland's leading retailer, innovating and steering an international scientific project with a Nobel prize winning physicist, or joining a team in constructing a six story high mosaic in a Swedish hospital.

With a long track record of seeing through complex data driven projects, I understand what it takes to, not only innovate and display exciting POCs, but also lay the bricks for a rigid and reliable process in real life production use.

#### **Education**

**2006 - 2011, University of Helsinki**PhD in theoretical and experimental materials physics

**2000 - 2006, University of Helsinki** MSc in computational materials physics



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#### **Experience**

May 2022 - Consultant & Owner, Ocon Oy

Nov 2024 -, Data Science consultant, SOK

Analytics and optimization of ecom and autostore operations.

#### Aug 2024 -, Data Science consultant, Veikkaus

Design and implementation of a customer facing item recommender services.

## Jul 2023 - Jun 2024, *Pricing Data Science consultant*, Wolt/Doordash Planning, implementing, and analysing customer pricing initiatives, with main focus on discount allocation.

#### May 2022 - Apr 2023, Director of Data Science, Lummo

Overseeing the data science initiatives of a Southeast Asian conversational commerce startup with strong emphasis on taking advantage of the latest innovations in natural language AI, such as GPT-type models.

## Nov 2015 - May 2022, Data Science Architect, Data Scientist, Analytics Developer, SOK

Innovating, designing, supervising and hands-on implementing advanced analytics and data science projects from POC to solid production in close collaboration with the business management and data platform teams.

# Sep 2012 - Dec 2015, *Postdoctoral Research Scientist*, Ulm University Project planning, project supervision, data analysis, simulations, software development, electron microscopy, image processing and analysis, hardware design, reporting, academic writing, and teaching.

#### Mar 2006 - Jul 2012, Research Scientist, University of Helsinki

Running experiments on radiation effects in nanoscale materials, such as graphene and carbon nanotubes, with the particle accelerators at Uni. Helsinki. Running atomistic simulations of nanomaterials under irradiation on HPC clusters.

#### 2010 - Present, Public Art Projects

Creating tools, and running image manipulation and image generation computations for numerous large scale public art projects in Finland and Sweden, at locations such as the Helsinki Art Museum, Danderyd's hospital in Stockholm, and the new swimming hall of Iisalmi. Currently working on two large scale mosaics for the expansion of the National Museum of Finland.



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#### **Selected Activities**

#### Full stack game recommender system

A customer facing recommender system was developed, where the implementation from algorithm development to k8s deployment was on my task list.

#### **Targeted discount campaigns**

I implemented a number of successful targeted discount campaigins, based on, e.g., probablistic modeling of customer life cycle states.

#### **Customer insights**

As part of a top strategic initiative at SOK, a vocabulary of customer features was defined and modeled for the whole customer base, and based on these results a customer segmentation was created under my supervision. An automated process was implemented to serve always up to date results reliably to a number of down stream data consumers.

#### **Assortment Optimization**

Another central strategic goal at SOK of hypertailoring the local store assortments was met by a fully automated recommendation system based on receipt level sales and customer data.

#### **Econometric Analysis**

As part of the acquisition of a major competitor, I conducted extensive Bayesian econometric analysis, assuring the Finnish authorities of the miniscule risk of a market failure after the acquisition.

#### Retail product recommender

A grocery product recommender was developed to feed input to a 'smart shopping cart' feature of the web store. Various algorithms, suchs as collaborative filtering were A/B-tested to find the best approaches and parametrizations.

#### **Scientific Publications**

Co-authored 35+ scientific articles in prestigious journals such as Nature, Nature Physics, Nano Letters etc., mainly on nano scale materials, with methods and tools ranging from large scale atomistic simulations, via atomic scale electron microscopy and image analysis, to experiments with HV particle accelerators. See Google Scholar for the full list of my publications.

#### **Book authoring**

Authored a chapter in a text book on Helium Ion Microscopy.

#### **Open Source Projects**

Contributed to a number of open source projects to make the tools better fit the problems at hand.



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#### **Technology**

#### **Programming languages**

PythonC/C++DavascriptRSQLElm

#### **Selected Methods, Frameworks and Platforms**

- AWSGoogle Cloud
- Bayesian modeling
  A/B-testing
- TorchTensorflowTransformers
- GNU/LinuxWindows/WSLGit
- Apache KafkaKubernetesContainers
- Airflow

#### Languages

- Finnish (native)
- English (fluent)
- Swedish (advanced)
- German (basic)

#### **Interests**

#### **Professional**

Data & science, innovation, leadership, open source, technology

#### **Personal**

Books, music, movies, arts, board games, cooking, technology