



Ossi Lehtinen  
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# Ossi Lehtinen, PhD

## Data and Science Professional

**About Me** I get a kick out of solving the unsolvable and teasing out *clear*, *condense* and *actionable* solutions to real life problems, as well as inspiring the people around me to strive for the same.

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, hypertailoring 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

## Experience

**May 2022 - Consultant & Owner, Ocon Oy**

**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.



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## Selected Activities and Achievements

### Question Answering AI

A question answering AI was implemented for taking in the knowledge-base material of a business and generating accurate and fluent responses to customer inquiries.

### 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 econometric analysis, assuring the Finnish authorities of the miniscule risk of a market failure after the acquisition.

### 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

- Python
- C/C++
- R
- Javascript
- SQL
- Elm

### Selected Frameworks and Platforms

- AWS
- Torch
- GNU/Linux
- Apache Kafka
- Google Cloud
- Tensorflow
- Windows/WSL
- Kubernetes
- HF Transformers
- Git
- Containers

## 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