Silo AI

AI Consulting for Industry

Alexander Aurell

2009 – 2014   MSc Engineering Physics (KTH)

2014 – 2019   PhD Applied Math (KTH)

2020 – 2021   Postdoc (Princeton)

2021 –   AI Scientist (Silo AI)

Lorenzo Andraghetti

2012 – 2018   MSc Computer Engineering (UniBo)

2019 – 2021   Deep Learning Engineer (Univrses)

2021 – 2022   MLOps Engineer (Univrses)

2023 –   AI Engineer (Silo AI)

R&D for AI-driven products

Expertise areas

Design, planning & management

Technology planning

Architecture planning

Rapid prototyping

Project management

Machine Learning

Supervised learning

Unsupervised learning

Transfer & active learning

Multi-objective optimization

Reinforcement learning

Recommender systems

Computer Vision

Image segmentation

Object detection

Sensor fusion

Image generation

3D, video, point clouds

Image & object annotation

Natural Language Processing

Word & doc classification

Text tagging & parsing

Language generation

Machine translation

Speech recognition

Conversational AI

Software, Data & ML Engineering

MLOps & DevOps

Data engineering

Software development

Lifecycle support

Data platforms

Cloud AI

Embedded AI

IoT & Edge AI

databricks · Apache Airflow · Azure · ARM · QUALCOMM · STi · NXP · AMD · nVIDIA · intel · SIEMENS
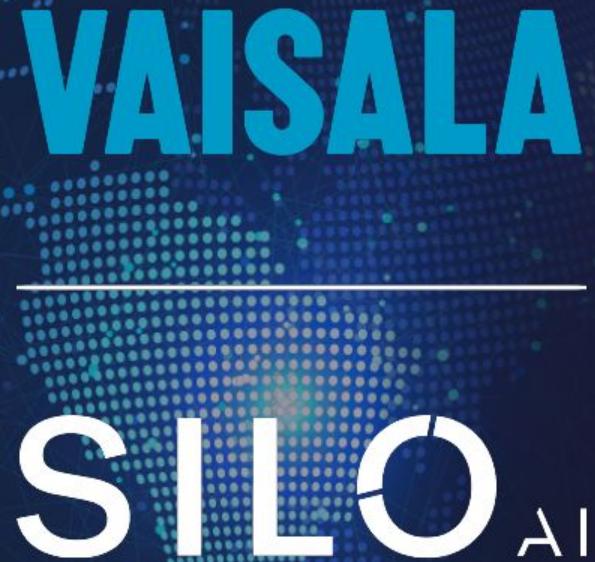
Precipitation forecasting with neural networks

From need to production grade AI 1/2

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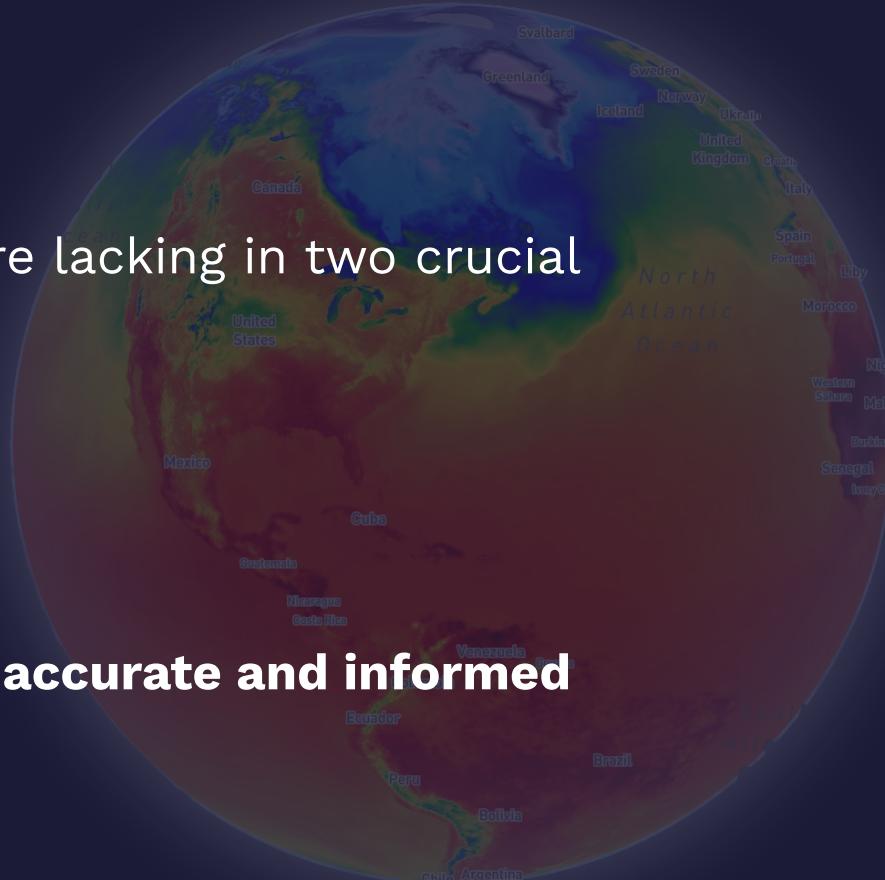
- Global measurement technology company

- Helping businesses and city authorities make informed decisions and take actions to mitigate environmental risks

- Specialized in developing products and services for environmental and industrial measurement

Problem

Vaisala Xweather forecasts were lacking in two crucial aspects for decision-makers:

- **Real-time**
- **Hyperlocal**

Vaisala clients could not make accurate and informed decisions

Solution

New forecasting methods, based on

- Advanced **physical modeling**
- Pioneering **sensors**
- **Data fusion**
- **Deep learning**

Results

New features in Vaisala Xweather for companies and city authorities to make **informed decisions** based on **hyperlocal weather** and environmental data:

- **Road conditions**
- **Street level air quality**
- **Smart traffic management**
- **Your favorite application of real-time hyperlocal weather forecasts!**

Digital Optimization Service for District Heating System Operators

From need to production grade AI 2/2

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Problem

City pipeline networks are aging...

■ Inefficient network performance and leaks

■ Environmental impact and unreliable service for customers

City pipeline networks contain 10^4-10^6 complex components that require maintenance planning.

Solution

Integration of machine learning capabilities into **Bentley's iTwin**:

- Comprehensible overview of complex pipeline networks
- Predicting pipeline leakages and other "energy thieves"

Results

Silo Flow - digital optimization service for pipeline network

- Energy efficiency, productivity, and savings for network operators by optimizing their network maintenance
- Reduction in supply temperature

Working with clients
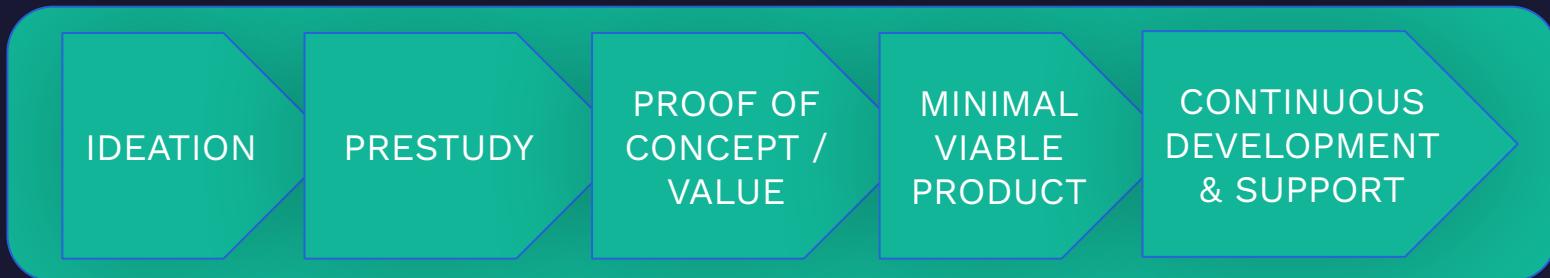
*Some words about our consultancy*

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Consultancy at Silo AI
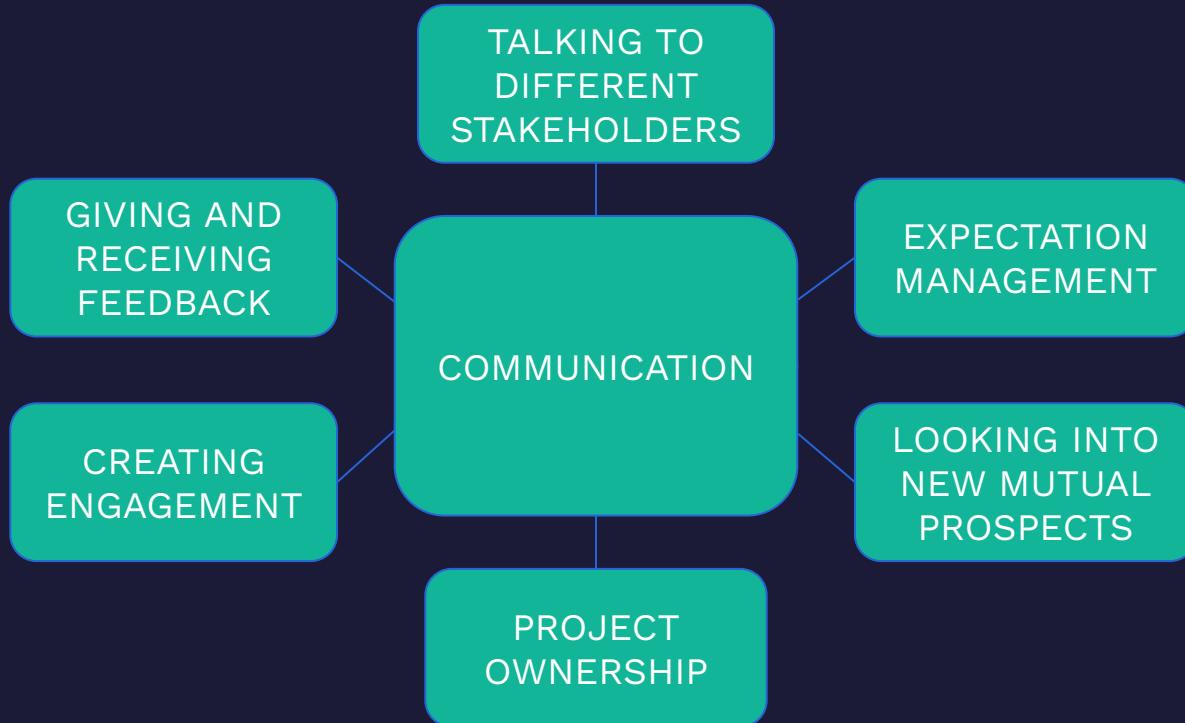
- Journey with customer from idea to productized AI

| IDEATION | PRESTUDY | PROOF OF CONCEPT / VALUE | MINIMAL VIABLE PRODUCT | CONTINUOUS DEVELOPMENT & SUPPORT |

- But also:

| PRODUCT DEVELOPMENT | AI STRATEGY | EMBEDDED EXPERTS | PRODUCTS SUPPORT |

Soft consultancy skills

TALKING TO DIFFERENT STAKEHOLDERS

GIVING AND RECEIVING FEEDBACK

EXPECTATION MANAGEMENT

COMMUNICATION

CREATING ENGAGEMENT

LOOKING INTO NEW MUTUAL PROSPECTS

PROJECT OWNERSHIP

Silo AI

AI flagship company from the Nordics

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SILO AI

What we do

Trusted AI partner. We deliver AI-driven solutions and products to our clients by providing world-class expertise and tooling.

Vision

AI for people. A world with safe human-centric AI that frees the human mind for meaningful work.

240+ experts
120+ PhDs
200+ production-grade AI

ML | CV | NLP

Cloud | IoT | Embedded

Nordics
Finland, Sweden, Denmark

North America
Vancouver, Canada
Palo Alto, US

Switzerland
Dach

UK
London

Focus segments & industries

Smart machines
Automotive | Maritime | Heavy Duty Vehicles | Machinery | Mining | Forestry | Aerospace

Smart devices
Consumer devices | Network equipment | Medical Devices | Semiconductors | Security

Smart society
Logistics | Infrastructure | Retail | Construction | Finance

SILOGEN

Blog Post

Something to keep an eye on…

- **Check out our webpage!**

https://silo.ai

- **Follow us on LinkedIn!**

https://www.linkedin.com/company/siloai

- **Nordic State of AI**

https://silo.ai/nordic-state-of-ai/
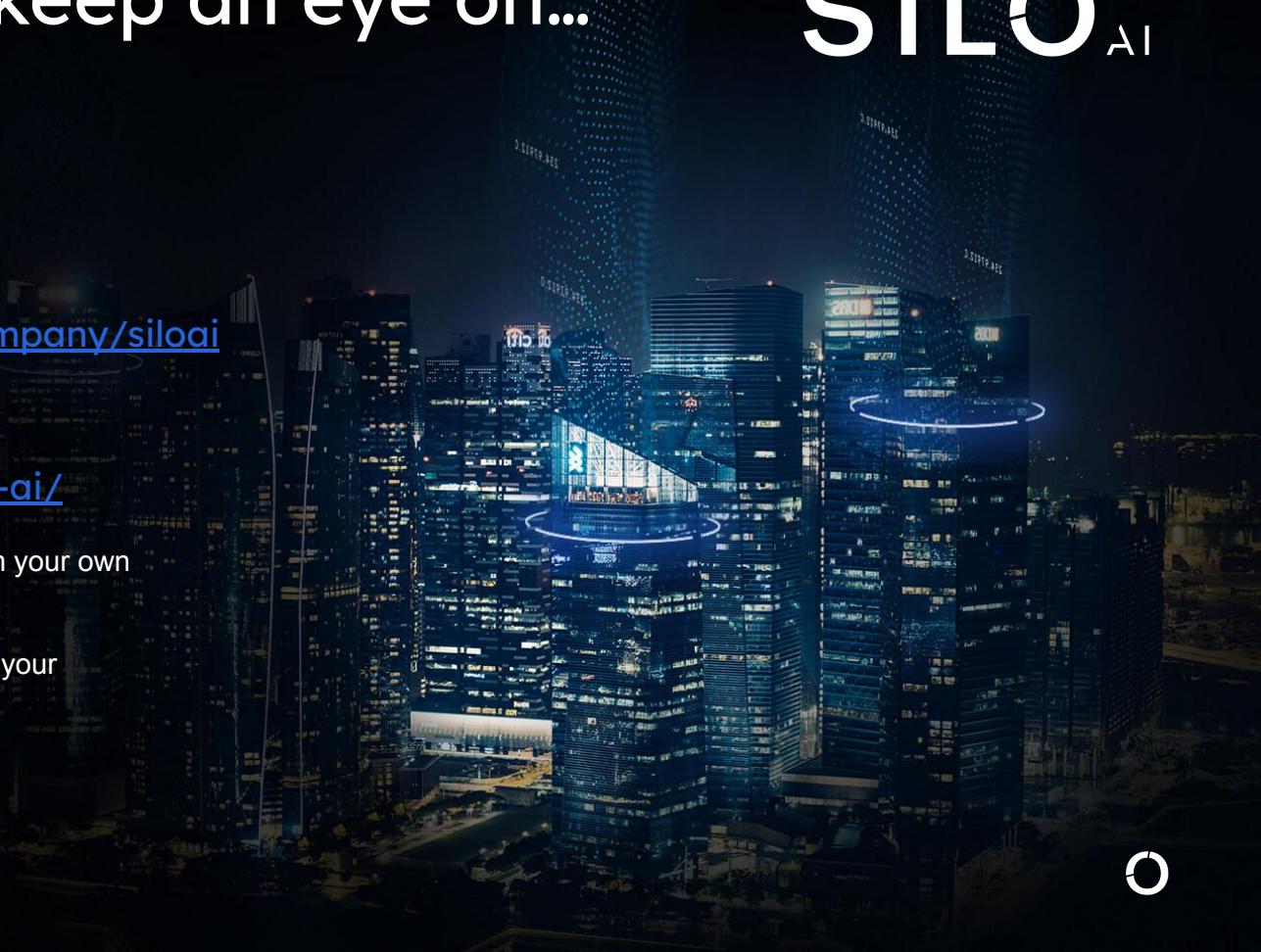
- Publications and conferences from your own expertise area (arxiv, etc)
- Technology trends
- Other competencies in addition to your tech-stack:
  - ownership/accountability
  - communication
  - resilience

Something to keep an eye on...

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- [Kaggle](#)-competitions - very good place to learn and try new AI techniques. Active discussion and knowledge sharing
- [KDnuggets](#), [The Sequence of AI Knowledge newsletter](#), [Towards Data Science](#)-blog
- [Jeremy Howard's Fastai-courses](#)
- [Approaching almost any machine learning problem-book](#)
- Online tech-communities, for example [MLOps-community](#)
- Big research organisations like Google AI, Meta AI, Open AI
- Hands-on style and own projects during the studies

Lastly,

*"On the tool side, it's good to understand the benefits and weaknesses of different frameworks, but **you shouldn't stress too much about knowing all the tools**. If, as an NLP/CV data scientist, you know deeply one DL Framework (TF or Pytorch) and, as an ML scientist, pandas, scikit-learn and one Bayesian modeling framework/library, you can get a lot done with them. You learn to use the tools in a day. **During your studies, you should invest in developing a strong foundation, i.e. acquiring skills that cannot be acquired in one day**"*

Silo AI's Lead AI Scientist

So Ask Why & Keep Learning!

Thank you!

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https://silo.ai

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