



LUMI AI Factory

Service Portfolio

LAUNCH EVENT 2 APRIL 2025

Services: **TALENT**

LUMI AI Factory



Training the latest skills & technology

- **Co-create with AI centers**
- Provide **structured training paths** for AI and HPC
- **Tailor training** for different domains



Consultation with company focus

- Remove friction with **starter pack & feasibility analysis**
- Weave AI Factory into **existing networks and ecosystems**



Focus on AI adoption

- Offer **time-limited interventions** to step up AI adoption in companies' RDI
- **Long-term access** to the platform, support and training
- Support in applying for **large resources** & providing **fast lanes**



AI Factory Hub: engage the next-generation talent

- **Co-working hub** on grounds of Aalto University & ELLIS Institute
- Network of satellite hubs & virtual co-working space
- Running & supporting **hackathons, challenges and accelerators**

AI adoption showcases on LUMI

LUMI AI Factory

LUMI

MACHINE VISION | MACHINE LEARNING

AI-powered biometric identification

CANDOUR IDENTITY developed an identification method based on facial recognition. Candour's technology tried to find a balance between speed and reliability. The application had to be pleasant to use, meaning identification had to be easy and fast – but errors could not occur.

IMPACT: AI Model accuracy improved by tens of per cent. Recognition improved significantly and errors were reduced. Using the LUMI supercomputer significantly reduced product development time and made it easier to bring the superior technology to customers.

Read whole story behind the QR code.

CANDOUR IDENTITY, a global online identity verification company. Originally Oulu university-based start-up company, which foundation lies in three decades of academic research in machine vision and machine learning.

LUMI

MACHINE LEARNING

Improving the efficiency of healthcare client encounters

GOSTA LABS has developed an AI assistant to automate clinical note generation and streamline documentation in healthcare and social care. They emphasize high-level data protection with strict control on language model training. Gosta Labs contributes to the European healthcare AI ecosystem. Their machine learning models were trained using the LUMI Supercomputer.

IMPACT: Gosta Labs improved model performance and resource efficiency, while also offering an environment-independent alternative to closed large language models from a data protection perspective. They achieved the scalability needed to produce the necessary European data sets for training and to train models for multiple European languages.

Read whole story behind the QR code.

GOSTA LABS is a Finnish healthcare and social care technology company that develops machine learning models to improve patient care and medical practice. The company's flagship product is the AI assistant Gosta Aide.

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MACHINE VISION | MACHINE LEARNING

AI-based Data Analysis of Satellite Images

ICEYE makes the radar signal computationally visible and produces analytics of what the images show. The company has imaged and investigated, among other things, floods and wildfires. Data sets with size of terabytes are typically a challenge considering the data transfer, storage and the memory capacity need with computing.

IMPACT: LUMI's cost-efficient computing and data storage and the great computing speed enabled ambitious experimenting even with the most demanding AI-models to get the best automated image interpretation of the satellite images.

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ICEYE is a space technology company whose microsatellites deliver real-time radar (SAR) images from anywhere, at any time of the day and under any weather conditions. ICEYE operates internationally with offices in Finland, Poland, Spain, the UK, Australia, Japan, UAE, Greece, and the US.

LUMI

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MACHINE VISION | MACHINE LEARNING

AI technology for people counting

SUPERSIGHT developed its machine vision model with total privacy protection. The solution is a mobile phone, a supercomputer, and a working AI model. A large-scale processing of visual datasets and development of advanced artificial intelligence models require the simultaneous processing of huge amounts of data. Parallel computing speeds up the training of neural networks to develop an AI model.

IMPACT: Supersight significantly accelerated the testing and modification of its AI model and achieved 99% accuracy for people counting. The AI model is now the most accurate in its industry worldwide.

Read whole story behind the QR code.

SUPERSIGHT is turning smartphones into easy-to-install smart sensors. The solution provides the highest level of precision, cyber security and privacy protection. They developed an AI model with 99% accuracy in people counting and with total privacy protection.

LUMI

MACHINE VISION | MACHINE LEARNING

Human posture estimation technology

TOP DATA SCIENCE is a partner in the ASA-project (AI for Structural Awareness). The company used state-of-the-art human posture estimation technology. Posture estimation application areas include e.g. remote healthcare and elderly care fall detection, security cameras and autonomous vehicles. The project required hundreds of video clips from which human posture estimation can be extracted for training the neural network of the solution.

IMPACT: Many computationally demanding tasks were outsourced to the LUMI supercomputer and successfully created a human body trajectory dataset that is utilized in the ASA project. LUMI is ideal for performing multiple parallel tasks on GPUs.

Read whole story behind the QR code.

TOP DATA SCIENCE is a company specializing in artificial intelligence, machine learning and related software engineering services. The company develops and implements solutions based especially on computer vision technologies that use video or image data.

LUMI

MACHINE VISION | MACHINE LEARNING

Developing the future of engineered wood products with AI

RAUTE helps its customers to make the most efficient and effective use of wood raw materials, so that the industry can make better use of renewable and carbon-storing wood-based materials. They use machine vision to identify the properties of wood materials. Teaching machine vision is computationally intensive work.

IMPACT: Fast calculation results – one calculation round on the LUMI was performed ten times faster than with normal methods. Raute's high-level research on a world-class LUMI supercomputer, and the results can be used by their customers around the world, increasing competitiveness worldwide.

Read whole story behind the QR code.

RAUTE CORPORATION is a global group that develops and supplies technology and services to the wood industry. Raute is the market leader in veneer, plywood, and LVL manufacturing technology and the only company in the world able to offer customers a complete mill-level solution.

LUMI

MACHINE VISION | MACHINE LEARNING

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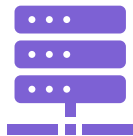
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Services: **COMPUTE**

LUMI AI Factory



Computing capacity never seen before

- Globally **leading AI training with massive GPU capacity and fast & large data storage (shared & dedicated)**
- **AI model serving at scale for "every open model out there"**
- **Customisable environments** with virtual clusters to match every need
- API-based access and recipes for **automation and public cloud integration**
- **Quantum capacity** for next-level QC-AI

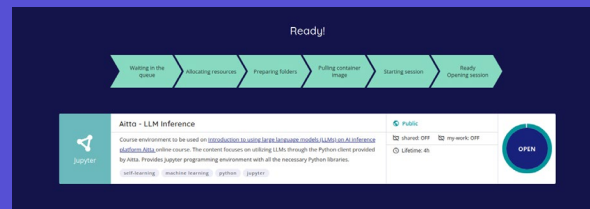
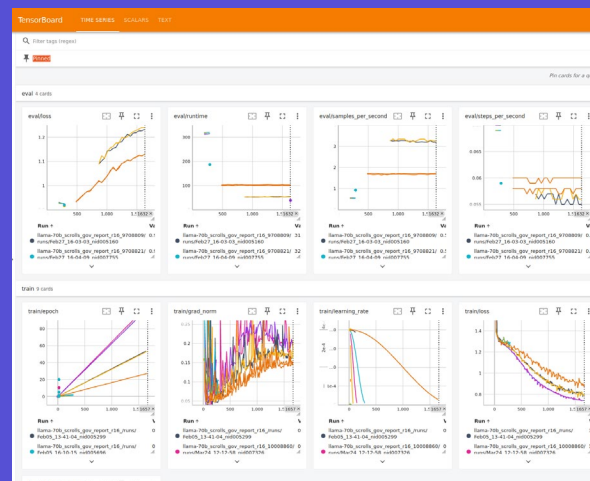
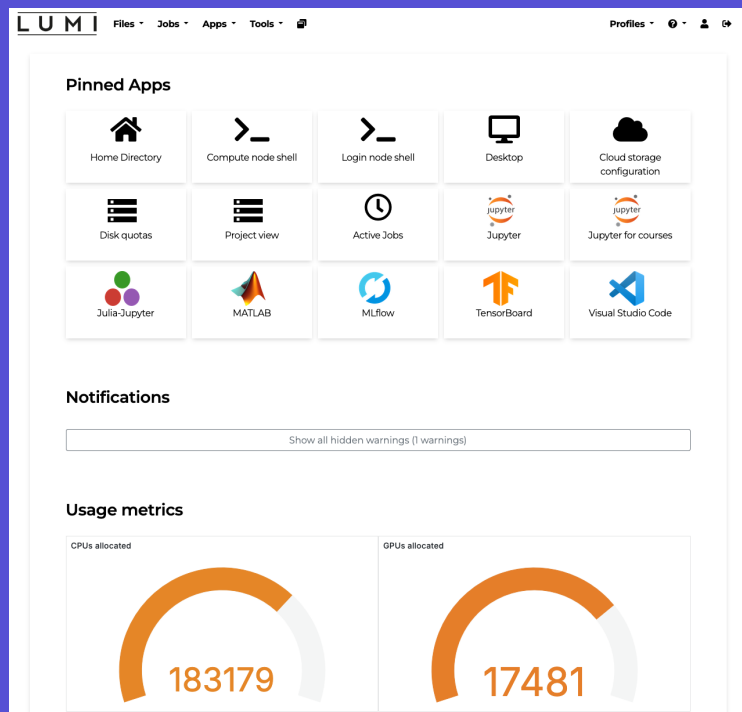


Expert support all the way

- **Friendly human support** for getting started and all the way to deep AI methods and scalability
- Accelerated adoption with **self-service environment, thorough documentation and AI assistants**
- Supported **MLOps environment** and recipes

Showcasing the AI environment

LUMI AI Factory



Services: DATA

LUMI AI Factory



Data access is the priority

- Make data manageable with **cloud-like data environment**
- **Datasets-as-a-Service:** previously inaccessible datasets made available
- Remove data access barriers with **sensitive data services and access authorisation mechanisms**
- Direct connections to **data spaces and data repositories**



Data support that goes the extra mile

- **Data team for sourcing, negotiating and curating high-value datasets**
- Help with the necessities: data wrangling & data engineering
- Support **streaming data** into the supercomputer

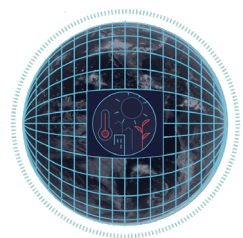
Showcases of unique datasets

LUMI AI Factory



OWI Stats

	4.02	185	28	755.00
	Billion URLs crawled	different languages	Million Hosts	Total TiB crawled
1	147	17.48	28.83	346
TiB crawled per day	WARC Datasets	TiB Size of Open Web Index	TiB Size of WARC Datasets	Public Datasets



Destination Earth



A central repository of digital pathology slides to boost the development of artificial intelligence

