LUMI

This project has received funding from the European High-Performance Computing Joint Undertaking (JU) under grant agreement No 101101903. (EuroCC2).

MACHINE VISION | MACHINE LEARNING

AI-powered biometric identification

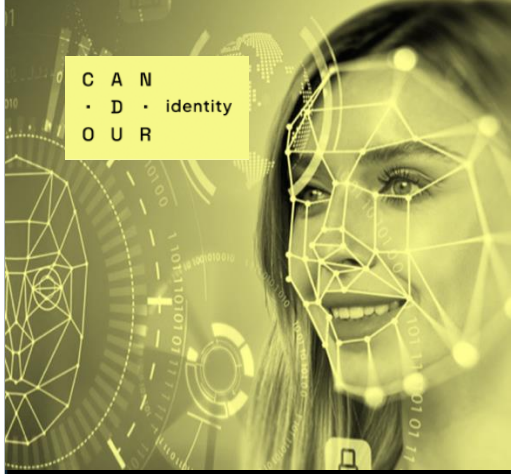
CANDOUR IDENTITY developed an identification method based on facial recognition. Candour's technology tried to find a balance between speed and reliability. The application had to be pleasant to use, meaning identification had to be easy and fast – but errors could not occur.

Harri Koskimäki, COO:

Finnish start-ups have an exceptional competitive advantage. This is something that should be announced more loudly.

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.

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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 controls on language model training. Gosta Labs contributes to the European healthcare AI ecosystem. Their machine learning models were trained using the LUMI Supercomputer.

Henri Viertolahti, CPO:

Our development efforts have been praised by data protection teams in healthcare organizations.

IMPACT: Gosta Labs improved models' 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 shows. The company has imaged and investigated, among other things, floods and wildfires. Datasets with size of terabytes are typically a challenge considering the data transfer, storage and the memory capacity need with computing.

Tapio Friberg,
Senior Machine Learning Engineer:

The very best experts supported us in the deployment process. I was able to move on to doing things that are part of my core competence.

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.

Read whole story behind the QR code.

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.

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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.

Kimmo Pentikäinen, CEO:

Everyone in this field needs to look ahead to maintain and further develop competitiveness. So do we by utilising LUMI.

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

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

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MACHINE VISION | MACHINE LEARNING

Human posture estimation technology

TOP DATA SCIENCE is a partner in the AISA-project (AI for Situational Awereness). 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 process required hundreds of video clips from which human posture estimation can be extracted for training the neural network of the skeleton.

Kseniia Khakalo,
Lead Data Scientist:

Everything went smoothly. LUMI exceeded expectations in terms of functionality and ease of use. The documentation was a great resource.

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

Read whole story behind the QR code.

TOP data science
A MORPHO COMPANY

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

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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.

Joona Kallinen, Head of Marketing and Communications:

LUMI is a natural fit for us, as we share the same values and goals that contribute to our common climate 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.

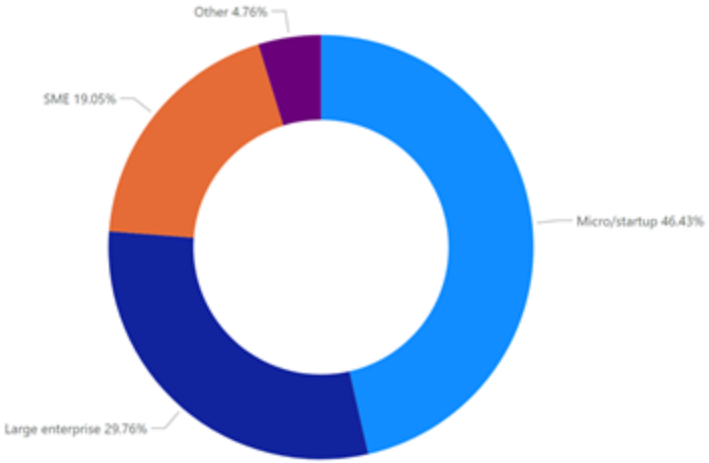
RAUTE

RAUTE CORPORATION is a global group that develops and supplies technology and services to the wood industry.

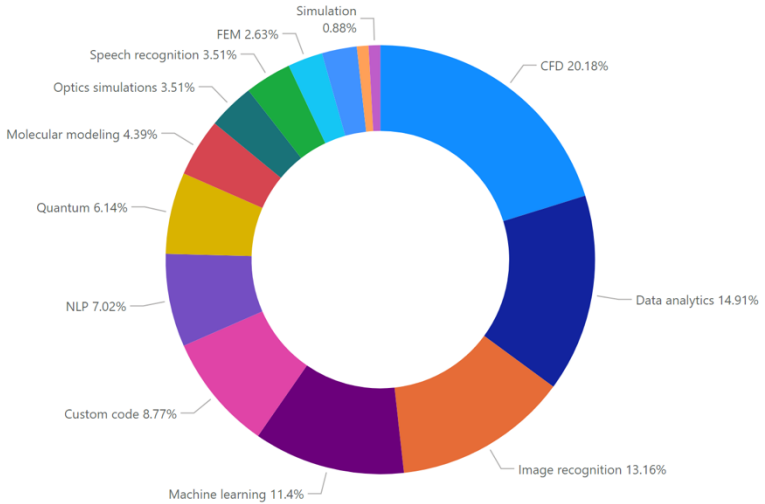
Raute is the market leader in veneer, plywood, and LVL manufacturing technology and the only company in the world able to offer customers a complete mill-level solution.

Industry projects on LUMI Supercomputer

By company size:



By application area:



02/04/2025: 19 cases in operations, in addition 9 opportunities are in Try&Buy phase.