



Introduction to AI Sweden



ai.se



my.ai.se



ai.se/newsletter



youtube.com/c/aisweden



linkedin.com/company/aisweden



Chiara Ceccobello, PhD
Data Scientist



Beatrice Comoli
Admin Lead

OUTLINE

- What is AI?
- AI Sweden introduction
- Decentralized AI
- NLU – GPT-SW3
- Information-driven healthcare
- Q&A

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What is AI?

- AI is a field of computer science that focuses on creating intelligent machines capable of performing tasks that typically require human intelligence.



What is AI?

- AI is a field of computer science that focuses on creating intelligent machines capable of performing tasks that typically require human intelligence.
- It involves the development of **algorithms and models** that can discover patterns and generate insights from the data they are exposed to. This process enables such algorithms and models to **LEARN, REASON, and MAKE DECISIONS** autonomously.



What is AI?

Artificial Intelligence

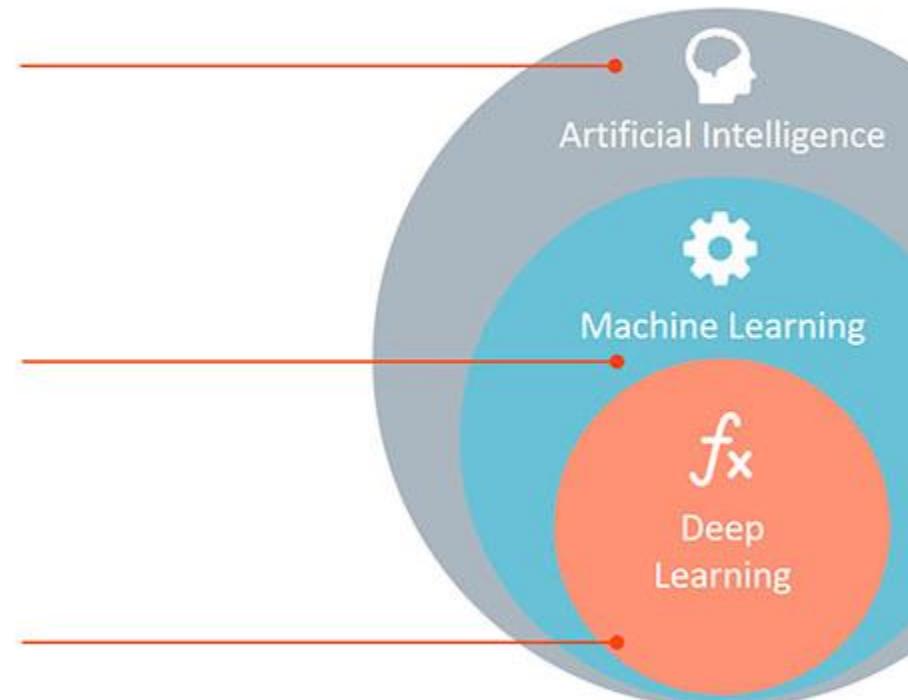
Any technique which enables computers to mimic human behavior.

Machine Learning

Subset of AI techniques which use statistical methods to enable machines to improve with experiences.

Deep Learning

Subset of ML which make the computation of multi-layer neural networks feasible.



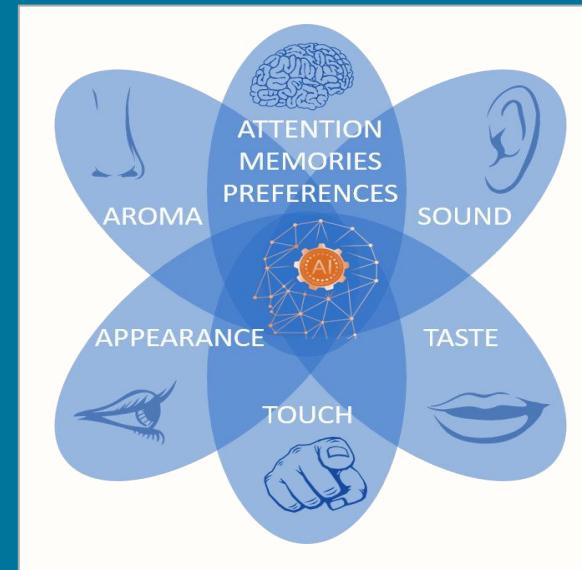
What is AI?

**Artificial Narrow
Intelligence
(ANI)**



MULTIMODAL
FOUNDATION MODELS

**Artificial General
Intelligence
(AGI)**



**Artificial Super
Intelligence
(ASI)**



OUTLINE

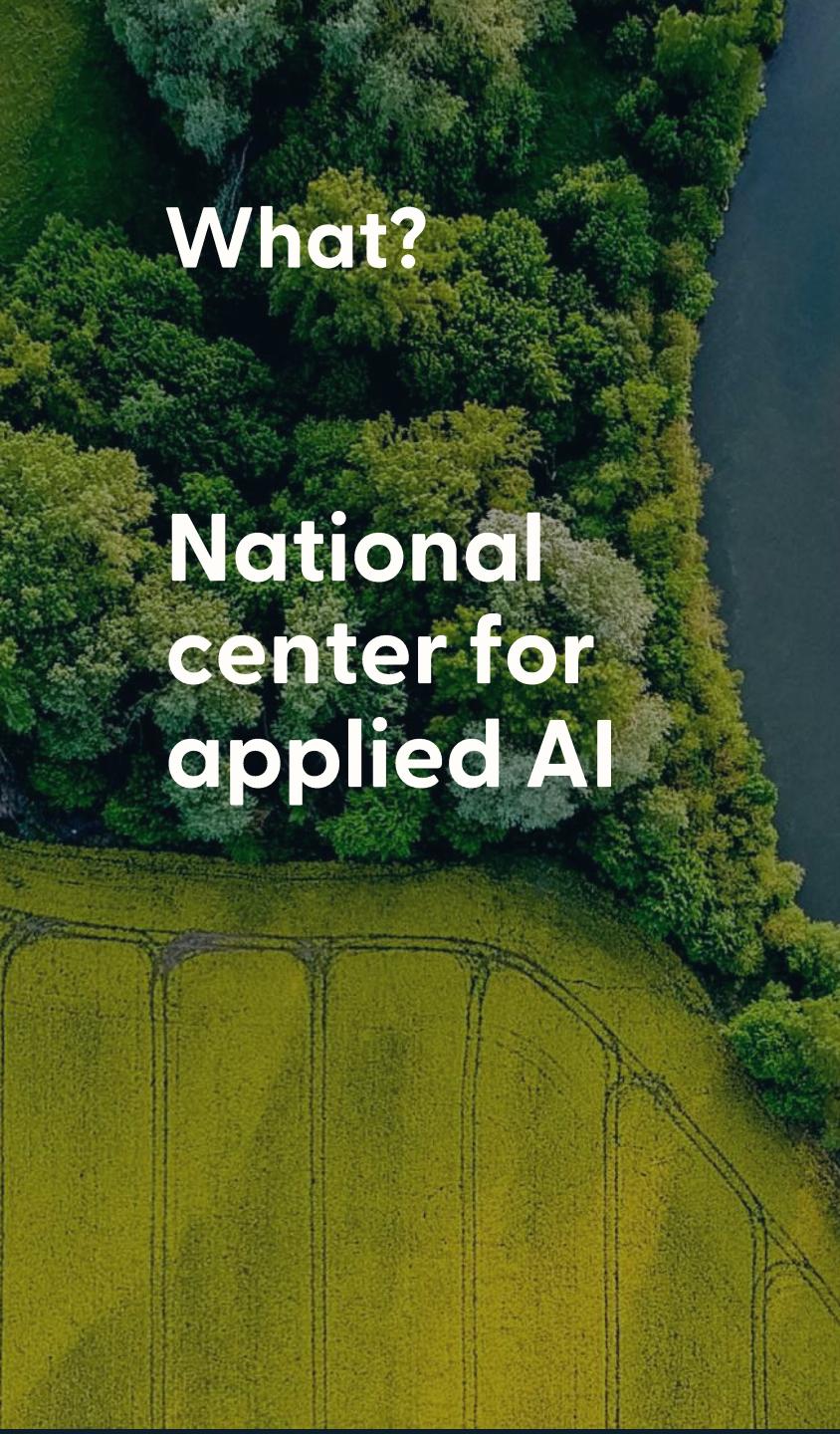
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A close-up, low-angle shot of a person's hands and arms as they row a boat. The oar is dark wood with a metal ferrule, and the water is choppy with white foam. A yellow kayak is visible in the background.

Why?

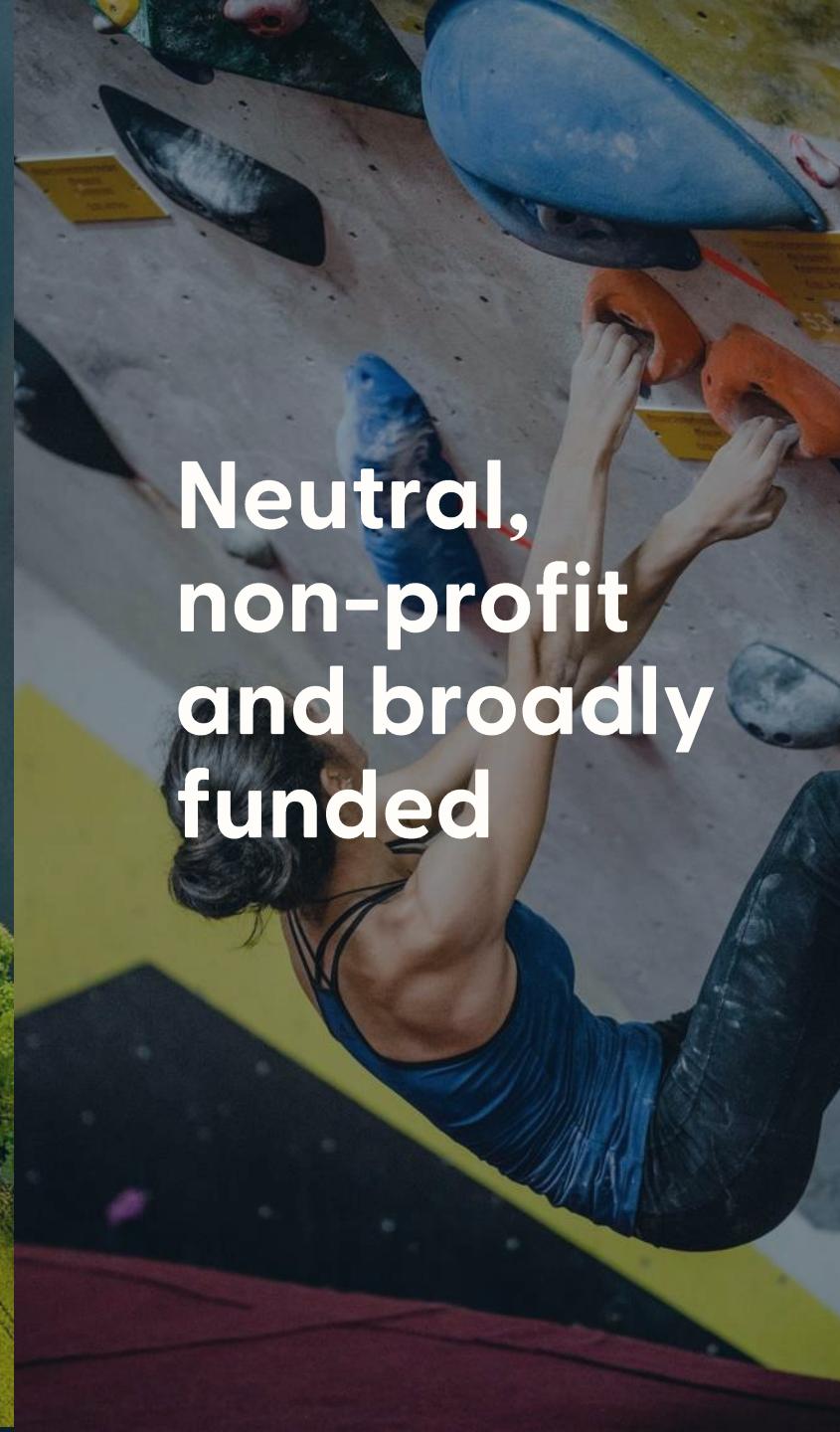
**Accelerating the use of AI for
the benefit of our society, our
competitiveness, and for
everyone living in Sweden.**

AI
SWEDEN



What?

National
center for
applied AI



Neutral,
non-profit
and broadly
funded



Private
sector, public
sector,
academia

AI
SWEDEN

National responsibility, regional presence

Current consortium of host organizations

eBusiness



INNOVATION
SKÅNE

LINKÖPING
SCIENCE
PARK

NORRKÖPING
SCIENCE PARK

Santa Anna IT
Research Institute

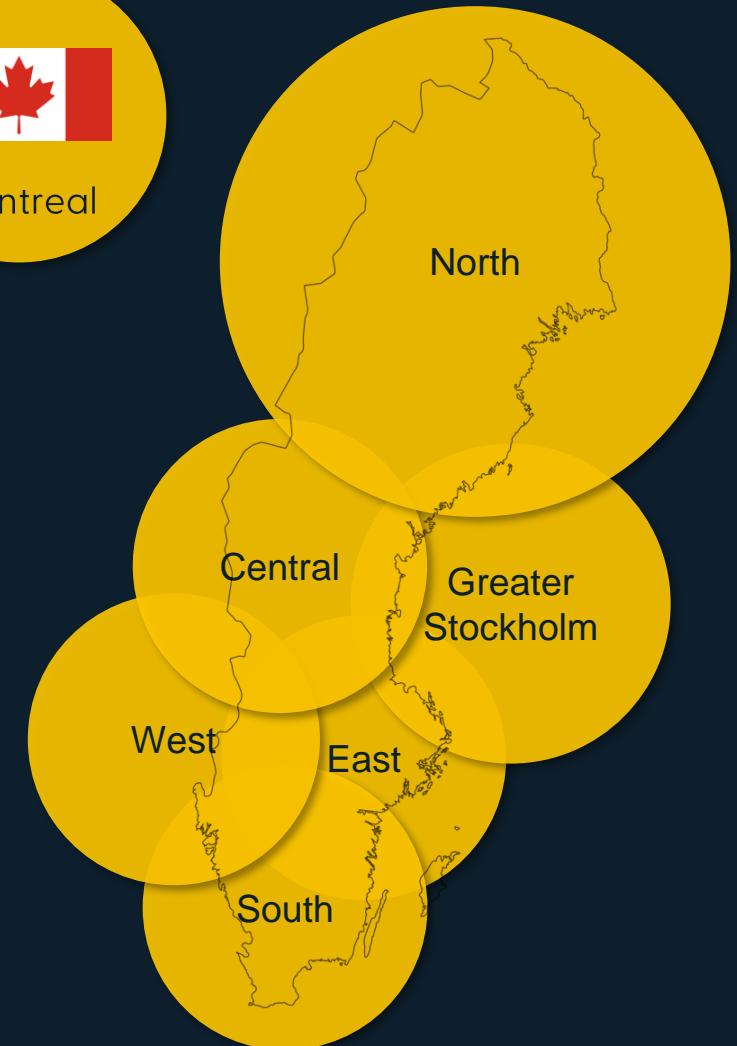
hi5h
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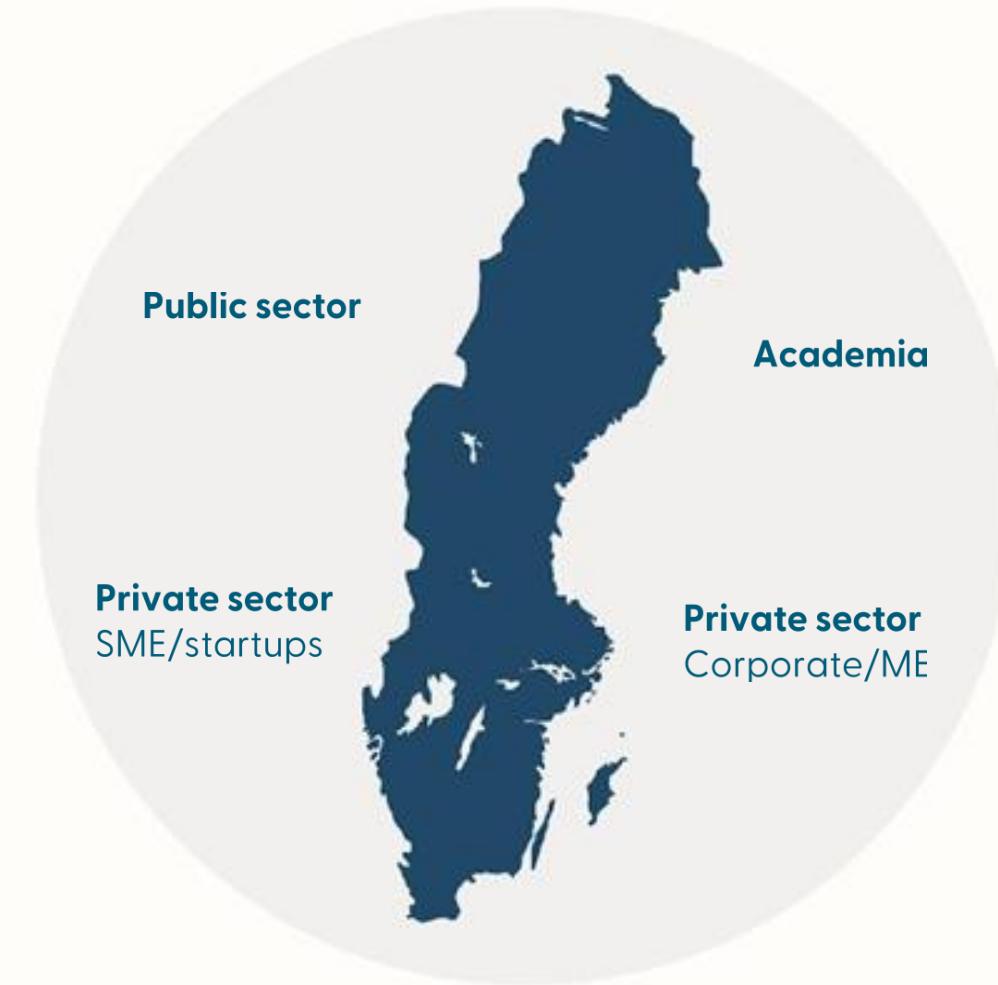
MD
U
Mälardalen
University

Humantech
Foundation

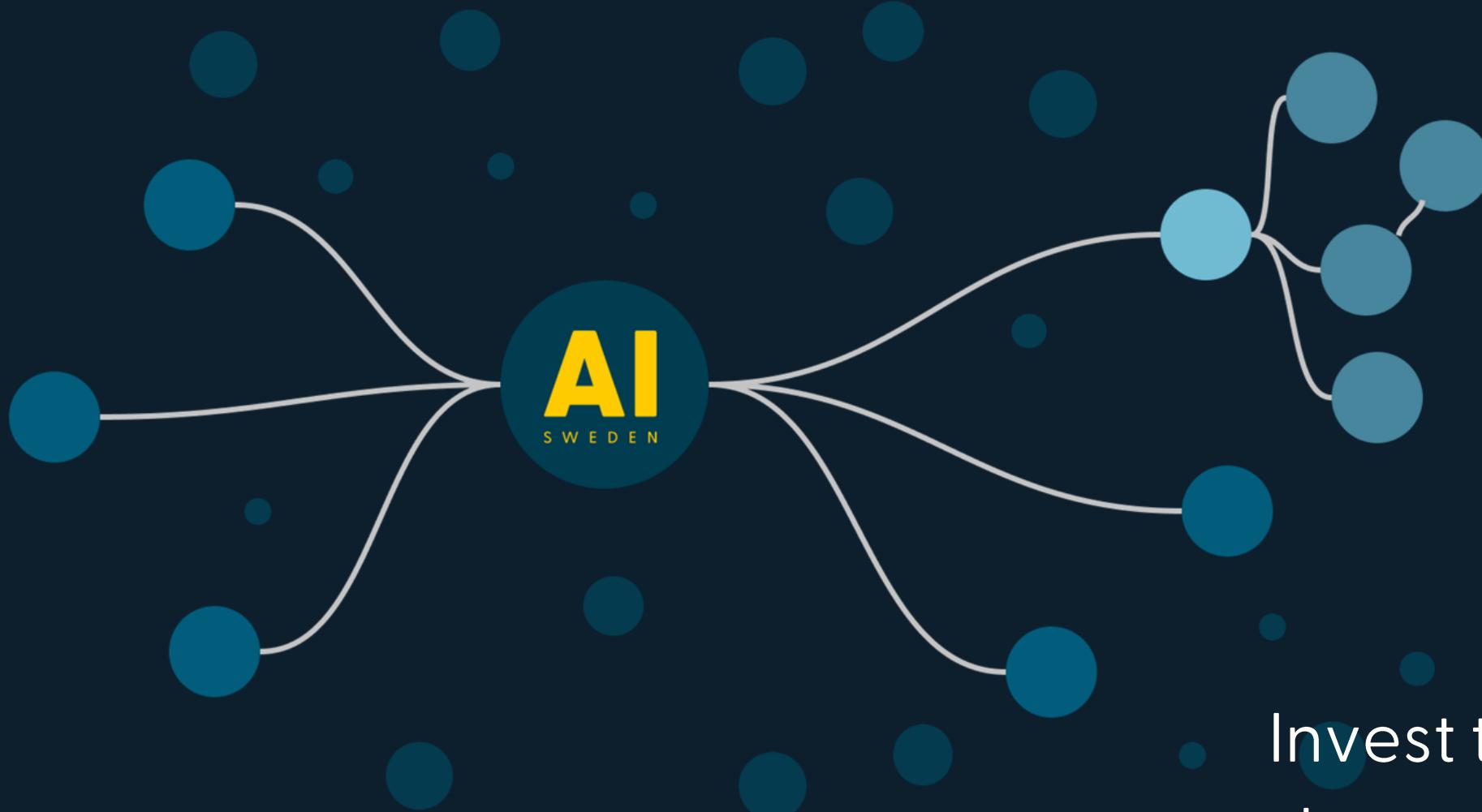


Montreal









Invest together,
share with many

Accelerating the use of AI in Sweden



Partner network



Talent



**Sharable knowledge
and resources**



Leadership

Talent programs

Young Talent program

Young machine learning talents working with AI Sweden and partners during fall 2021. New recruitment 2022.

Systems Engineer program

Recruitment program starting with 3 months dedicated to training. In development, start late 2021.

Junior AI Change Agents

Students from Hyper Island's "AI Business Consultants" program joined AI Sweden for an 8-month internship in October, 2021. New cohort 2022.

Talent attraction team

Group of partners jointly developing talent attraction programs.

Eye for AI program

18-month program in rotation between a minimum of 3 partners. First program started Oct 2021. New recruitment 2022.



→ [Stay up to date about our talent programs.](#)

AI Sweden Job Board

700+ job seekers already signed up

A growing pool of candidates with a Swedish and international reach. This is the way for AI talent to grow.

Free and easy to use

The Job Board is one of many free tools partners have access to.

Promote partners' job ads

The Job Board page doesn't manage actual applications. Instead, it is a showcase of what is available.



AI | job board

Boost the Swedish AI ecosystem

AI Sweden Job Board is the place for talent to find new opportunities within the AI ecosystem.

- Application form can be found on ai.se/en/jobboard
- Job ads are displayed on jobboard.ai.se
- Reach out to sofia.heden@ai.se if you have any questions

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What is decentralized learning? AI

An introduction to Edge Learning Lab

SWEDEN

Data Factory

AI
S W E D E N



AI Sweden – The AI Gym



Data Factory Team



Oliver Helmin
Technician



Ebba Josefson Lindqvist
Project Manager



Helena Theander
Head of Operations



Kim Henriksson
Testbed Architect



Beatrice Comoli
Admin. Lead



Vinutha Magal Shreenath, PhD
Sr. Data Scientist



Josefine Rembsgård
Legal Coordinator



Mats Nordlund, PhD
Head of Data Factory



Fredrik Viksten, PhD
Sr. Engineer



Chiara Ceccobello, PhD
Data Scientist

+ Students and contributors from our partners

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What?

Natural Language Processing (NLP)

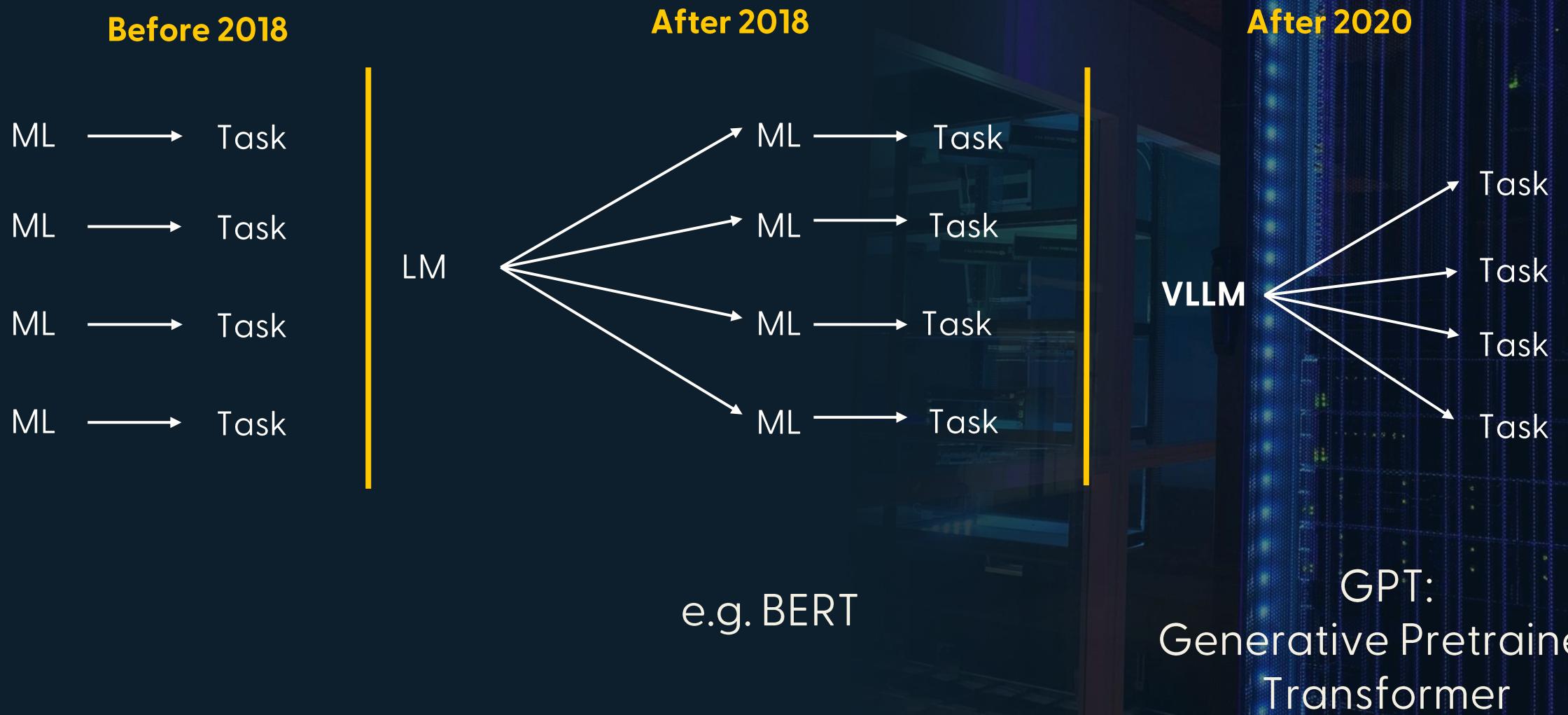
Process and analyze natural language with computer systems

Natural Language Understanding (NLU)

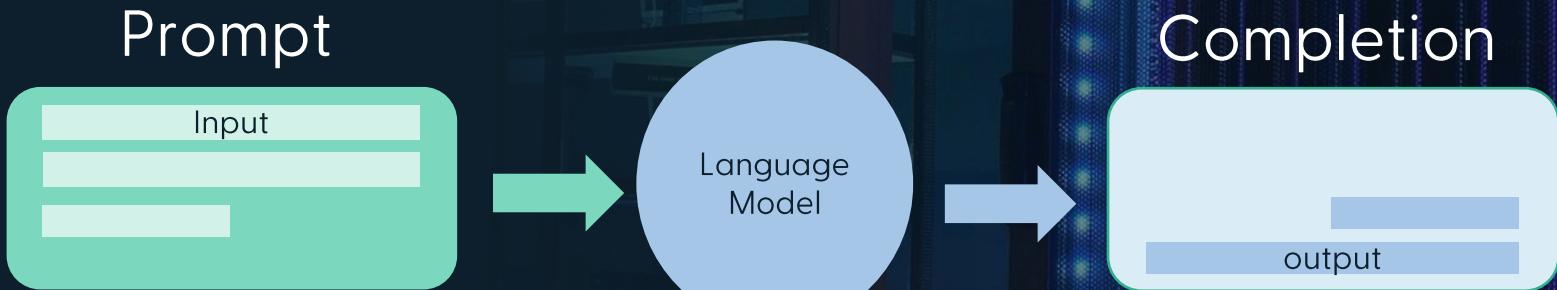
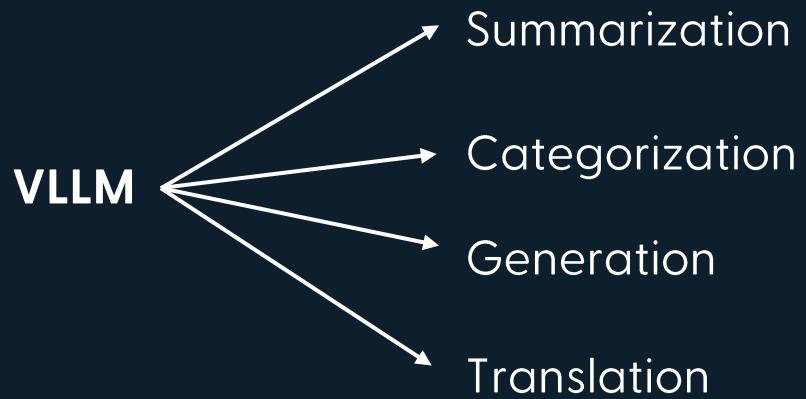
Enable computer systems to “understand” and generate language data.

Language Models (LMs)

Algorithms/statistical models that “learn” languages by “reading” large amounts of language data



After 2020





GPT-SW3 consortium



AI Nordics community on Discord

Data platform and deployment partners:



Countries that develop VLLMs

USA and China dominate



Why?

Build competence
Digital and linguistic
sovereignty
Democratize access to LLMs

How?

Collaboration
Transparency

GPT-SW3 Controlled

Pre-release

Accelerate the use of AI in an open, transparent and collaborative way and build competence in the Nordics about generative language models.



Christian Landgren
@Landgren

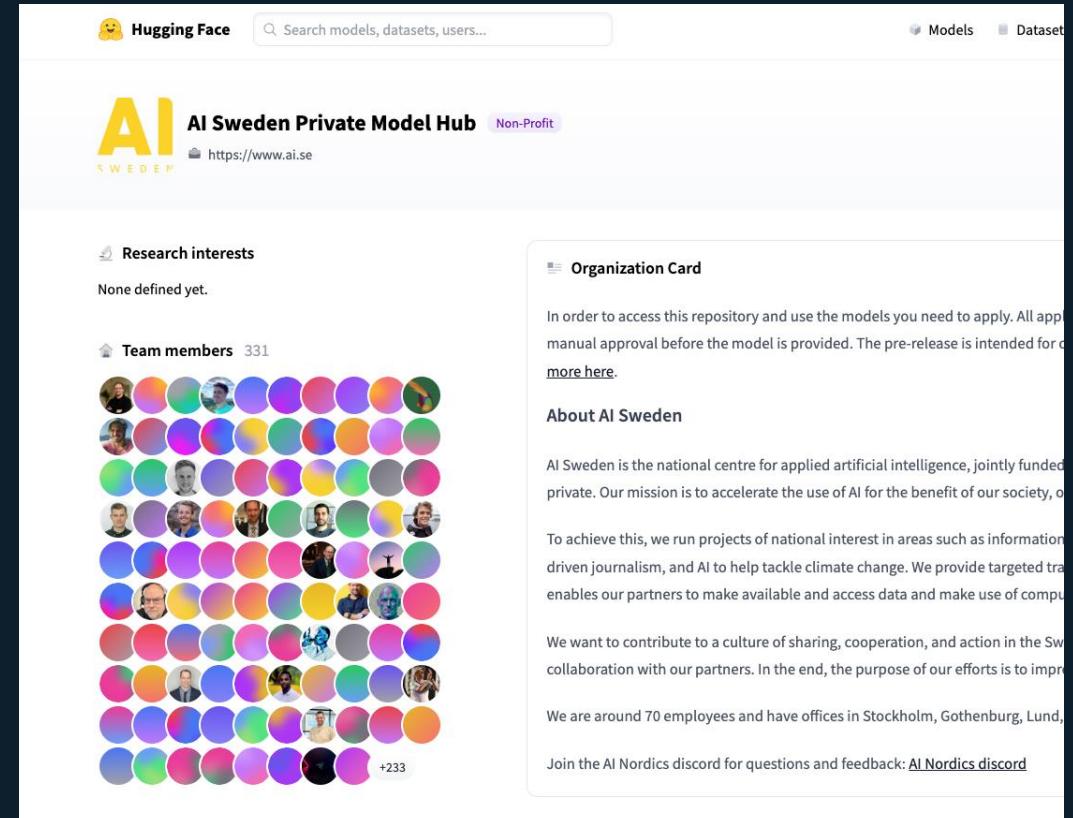
Sammanfattningsvis kan vi konstatera att @AISweden har lyckats skapa det första användbara AI:t som pratar svenska och kan användas utan att skicka data till tredje land. Nu hoppas jag att det finns innovativa organisationer där ute som också vågar experimentera.

[Tweet übersetzen](#)

9:58 nachm. · 6. März 2023 · 4.916 Mal angezeigt

5 Retweets 1 Tweet zitieren 52 „Gefällt mir“-Angaben

Reply Share Like Retweet



Hugging Face Search models, datasets, users...

AI Sweden Private Model Hub Non-Profit https://www.ai.se

Research interests None defined yet.

Team members 331

Organization Card

In order to access this repository and use the models you need to apply. All applicants will receive manual approval before the model is provided. The pre-release is intended for our partners. [more here](#).

About AI Sweden

AI Sweden is the national centre for applied artificial intelligence, jointly funded by the Swedish government and private. Our mission is to accelerate the use of AI for the benefit of our society, our economy and our environment.

To achieve this, we run projects of national interest in areas such as information systems, data science, AI-driven journalism, and AI to help tackle climate change. We provide targeted training and support to individuals and organizations, and enable our partners to make available and access data and make use of computational tools.

We want to contribute to a culture of sharing, cooperation, and action in the Swedish AI ecosystem. By working together with our partners, we can achieve more and faster. We collaborate with our partners. In the end, the purpose of our efforts is to improve the lives of all Swedes.

We are around 70 employees and have offices in Stockholm, Gothenburg, Lund, and Borås.

Join the AI Nordics discord for questions and feedback: [AI Nordics discord](#)

Our NLU team



Magnus Sahlgren



Francisca Hoyer



Felix Stollenwerk



Danila Petrelli



Ariel Ekgren



Alice Heiman



Amaru Cuba Gyllensten



Saga Kristjánsdóttir



Tim Isbister

The DAIM project

Distributed **AI** Infrastructure for foundation **M**odels (2023-2025)

→ Complete the **validation and deployment of GPT-SW3**

within the current infrastructure to gain knowledge and create a benchmark that can serve as input for the next-generation infrastructure and models

→ Define and build a **demonstrator of the next-generation infrastructure** for training, testing, validating and deploying foundation models using decentralized learning techniques



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AI for Healthcare



**Research and
knowledge
discovery**



**Healthcare
operations**

AI for Healthcare



**Research and
knowledge
discovery**



**Healthcare
operations**

Short term

Data structure and understanding

Ability to make data-driven decisions

Long term

Increased precision, decision support

Individually tailored healthcare

Increased efficiency

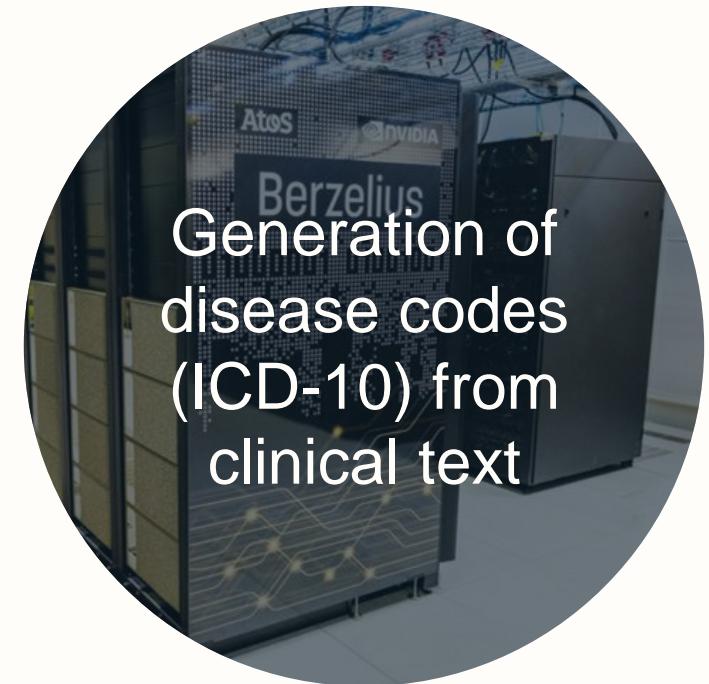
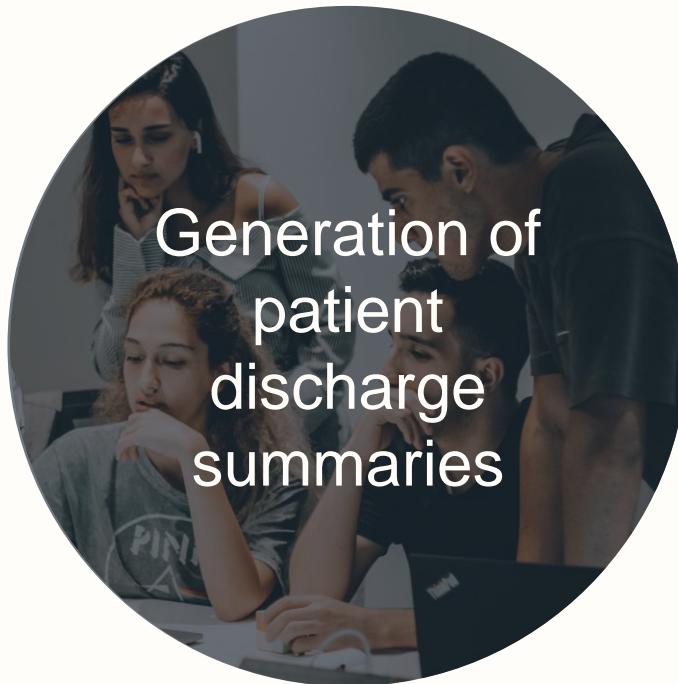
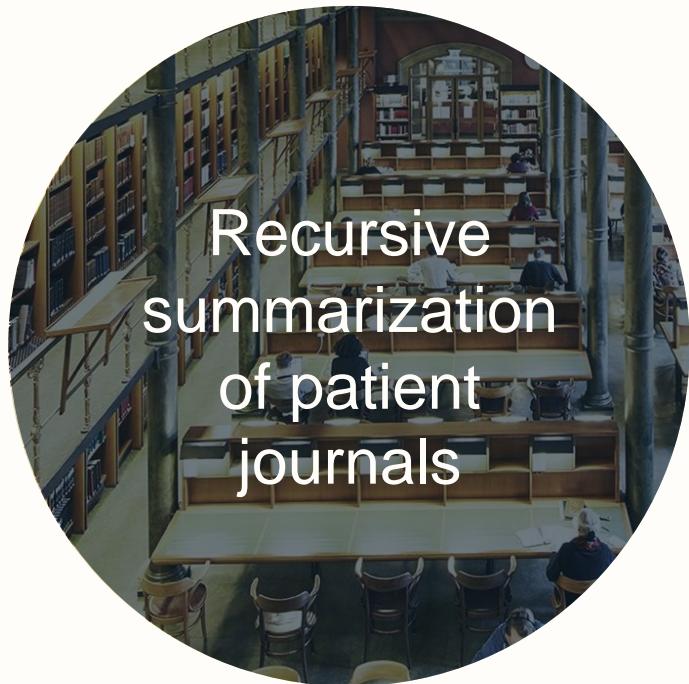
Federated learning between two Swedish hospitals



AI
S W E D E N

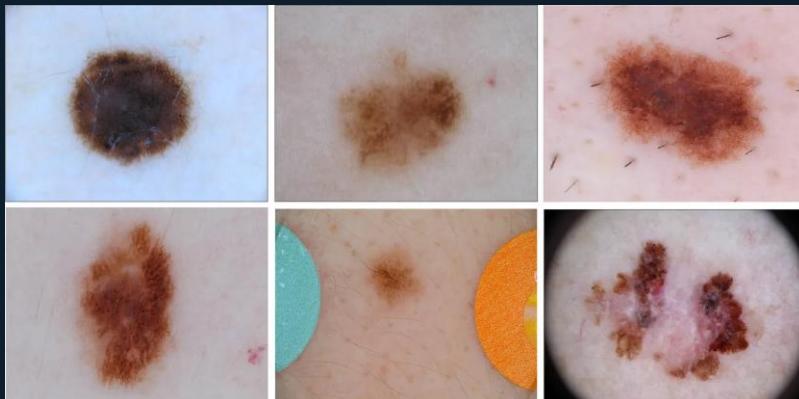
IMY. Integritetsskydds
myndigheten

Application of GPT-SW3 on clinical text

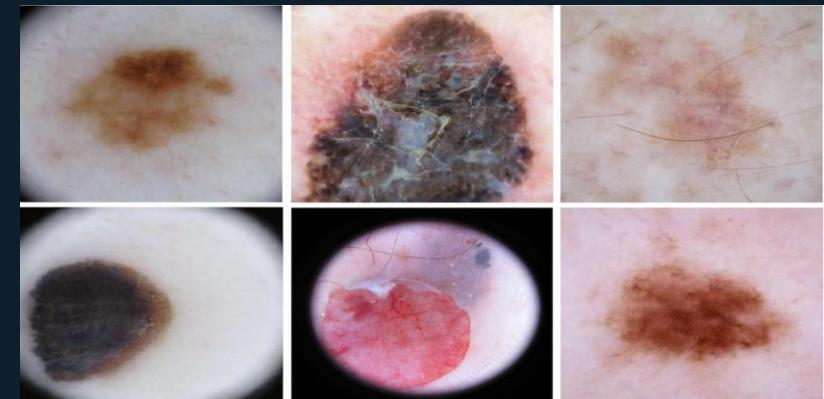
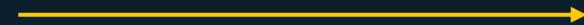


Patient journals from ~80 patients from a hospital in Halland

Generation of synthetic dataset



Real data



Artificial data

NLU Talents



Niclas Hertzberg



Anna Lokrantz

Eye for AI Talents



Sandra Carrasco



Sylvia Majchrowska



King and Queen



King and Queen



Kaja Kallas

AI
SWEDEN



Erna Solberg

Thank you!

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