



# EUROPEAN LANGUAGE EQUALITY

META  NET  
META  FORUM 2023

## National AI Programme: Sweden

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27-06-2023 META-FORUM 2023 – Digital Language Equality for a Multilingual Europe  
<http://european-language-equality.eu>

# AI Sweden

- The national center for applied AI
  - Funded by the Swedish Innovation Agency (Vinnova)
  - Partner organization (public sector, private sector, academia)
- Mission: accelerate the use of AI in Sweden
  - AI transformation and adoption
  - Ecosystem and relations
  - Applied AI and labs (NLU, data factory, edge learning)
- **The NLU lab: developing LLMs for Sweden (and the Nordics)**

# GPT-SW3: the first LLM for the Nordics

- >300B tokens in Swedish, Norwegian, Danish, Icelandic, English and code
- 126M – **40B** parameters, including instruction finetuning (available on Hugging Face)
- High utilization of hardware and low carbon intensity of the power grid

Model	SE	DA	NO	EN
Our-40B	<b>1.9240</b>	<b>1.8698</b>	<b>1.9270</b>	1.9660
Our-20B	1.9458	1.8932	1.9491	1.9928
Our-6.7B	1.9781	1.9229	1.9795	2.0152
Our-1.3B	2.0665	2.0192	2.0741	2.1166
Our-356M	2.1973	2.1568	2.2130	2.2477
Our-126M	2.3748	2.3455	2.3992	2.4297
GPT-NeoX-20B	2.3807	2.3378	2.4245	1.9377
Falcon-40B	2.0194	2.2379	2.2705	<b>1.8152</b>
Falcon-7B	2.6546	2.7355	2.7740	1.8743
Falcon-RW-1B	3.7672	3.7187	3.7806	1.9765

	GPT-NeoX	DaVinci	Our 40B
ANLI Round 1	0.340	0.363	<b>0.368</b>
ANLI Round 2	0.343	<b>0.375</b>	0.358
ANLI Round 3	0.354	0.369	<b>0.391</b>
WSC	0.500	<b>0.548</b>	<b>0.548</b>
HellaSwag	0.535	<b>0.592</b>	0.532
Winogrande	0.661	<b>0.699</b>	0.656
SciQ	0.928	0.949	<b>0.955</b>
PIQA	0.779	<b>0.791</b>	0.772
ARC (Easy)	0.723	<b>0.762</b>	0.687
ARC (Challenge)	0.380	<b>0.435</b>	0.368
OpenBookQA	0.290	<b>0.336</b>	0.274
HeadQA (English)	N/A	<b>0.356</b>	0.302
LogiQA	0.230	0.227	<b>0.290</b>
PROST	<b>0.296</b>	0.267	0.263

# AI resources in Sweden

- Funding:
  - The Swedish Innovation Agency (Vinnova)
  - WASP (Wallenberg AI Autonomous Systems and Software Program)
- Infrastructure:
  - NAISS (National Academic Infrastructure for Supercomputing in Sweden)
  - Berzelius (94 DGX nodes)
- Data: the national language bank of Sweden



European Language Equality



**Thank you!**



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