

NORWEGIAN OPEN LLMS AT UIO

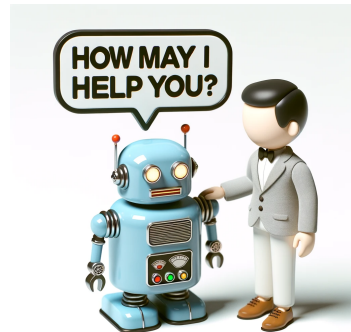
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1. The importance of openness in the era of generative AI
 - LLM-as-a-service
 - Open software and open LLMs
 - Aspects of openness
 - LTG and the open LLM ecosystem
2. Web-derived LLM training data for Norwegian
3. Training data for Norwegian LLM research
4. Developing NorMistral-11B
5. NorEval: Native benchmarking for Norwegian LLMs
6. The language quality of the Norwegian output in language models
- 7. Outlook**

- Our previous LLM-releases have targeted (technical) **researchers** and **developers**
- Today's release of a reasoning- and **instruction-tuned** model with a **chat interface** + API marks an important step towards reaching a broader set of users
- But consider it a research-level prototype and WiP
- Still many open RQs and lacking resources



- Need to create more **data** for all stages of model development:
- **Pre-training**, in particular for Nynorsk and Sámi.
- **Post-training**; data for instruction-tuning, preference-learning, and alignment is still largely missing.
- **Benchmarking**; in particular for truly generative tasks, reasoning, proficiency in Norwegian languages, and safety.
- Still need more **research** on **data-constrained training** for lower-resourced languages.

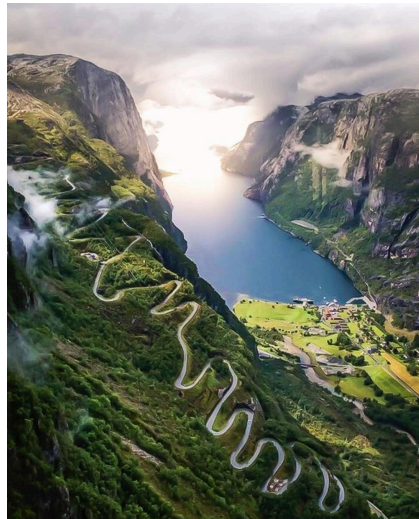


Image: @reginejacquelines

- Should increase **collaboration** and **coordination**
- Consensus among the major players:
- **UiO** (LTG), **National Library**, **NTNU** (NorwAI)
- Should also liaison with the Language Council (on language politics, etc.), UiT (regarding Sámi), Sigma2 (on infrastructure), and others.
- The competence, will and intent is there,
- but lack the necessary research **funding**.



- Raise **awareness** about open models
- Build **competence** on all levels,
- also among **users**: e.g. how to
 - run models locally,
 - fine-tune on in-house data,
 - develop use-case specific evals
- Foster an ecosystem of users of open Norwegian LLMs
- Need better mechanisms and standards for **data sharing**



DeepSeek-AI (2025). Deepseek-r1: Incentivizing reasoning capability in llms via reinforcement learning.

Liesenfeld, A., Lopez, A., and Dingemanse, M. (2023). Opening up chatgpt: Tracking openness, transparency, and accountability in instruction-tuned text generators. In *Proceedings of the 5th International Conference on Conversational User Interfaces*, pages 1–6.

Touvron, H., Lavril, T., Izacard, G., Martinet, X., Lachaux, M.-A., Lacroix, T., Rozière, B., Goyal, N., Hambro, E., Azhar, F., Rodriguez, A., Joulin, A., Grave, E., and Lample, G. (2023). LLaMA: Open and efficient foundation language models.