Xavier Theimer-Lienhard
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Light Lab (Meditron)

Team lead @ **EPFL** [apr 2025-sep 2025]
Led the Meditron reasoning team. Achieved 4% improvement on medical benchmarks through post-training LLMs with GRPO, without any other finetuning. Evaluated performances of reasoning models on LLM as a judge benchmarks. Compared distillation and GRPO for best method for creating reasoning models.

Postgraduate associate @ **Yale University** [sep 2024-apr 2025]
Trained medical reasoning models with distillation from large reasoning models. **Achieved 13% and 30% improvements** on reasoning benchmarks for Meditron-3-Qwen-7b and Meditron-3-8b, respectively. **Drove 5% and 9% improvements** on medical benchmarks for Meditron-3-Qwen-7b and Meditron3-8b, respectively. **Led the synthetic data team**. Developed a framework for generation of safe, representative synthetic data. Collaborated with medical doctors for feedback.

MSc Research @ **EPFL** [sep 2023-sep 2024]
Developed Meditree, a Tree of thought inference method that led to **5% improvement** on medical benchmarks for our Medical LLM. Finetuned Llama-3 the day after the release and gained improvements on medical benchmarks.

Irbis Consulting SA

Software engineer (part time) [sep 2023-sep 2024]
Created an app for assisting creation of appels d'offres documents for formatting and time speedup for users. Listened to feedback from users and iterated on app versions.

Software engineer (intern) [summer 2023]
Developed a Deep Learning powered scraper (Keras, TensorFlow) in under one week to retrieve and archive project data, for referral for future projects. Setup a search retriever on the created database.

Education

BSc and MSc of Data Science @ **EPFL** [sep 2018-apr 2025] **5.4/6 GPA**

Publications

Enhancing Meditron capabilities with synthetic and reasoning datasets
2025 - Master Thesis [PDF] - Detailing finding on finetuning open-source LLMs on medical reasoning datasets, achieving 13-30% reasoning benchmark and 5-9% medical benchmark improvements. Compared distillation with and without reasoning traces and found that results are better when finetuning without reasoning traces.

Llama-3-Meditron: An Open-Weight Suite of Medical LLMs
2024 - AAAI Workshop [OpenReview] - We finetune Llama-3.1 with the Meditron mixture using SFT and ORPO. Meditron outperforms its base model by 3% on medical benchmarks, and our Meditree inference method allows us to reach GPT4-Base performance of 80% accuracy on medical benchmarks, a 5% gain over Meditron alone.

GPoeT: A language Model for Rhyme Generation on Synthetic Data
2023 - ACL SIGHUM [Link] - We finetune GPT-2 on 142 MB of natural poems and 6 MB of rhyming poems and find that we obtain rhymes 60% of the time versus the 11% baseline.