

Joel Niklaus

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EDUCATION

UNIVERSITY OF BERN

PHD IN COMPUTER SCIENCE

Jul. 2020 - Jan. 2024 | Switzerland

summa cum laude (Grade average: *6/6*)

Advisors: Matthias Stürmer & Ilias Chalkidis

STANFORD UNIVERSITY

RESEARCH VISIT

Oct. 2022 - Mar. 2023 | Switzerland

Advisors: Daniel E. Ho & Percy Liang

Collaboration with the CRFM

UNIVERSITIES OF BERN,

NEUCHÂTEL, AND FRIBOURG

MSC IN COMPUTER SCIENCE

Sep. 2018 - Dec. 2019 | Switzerland

Grade average: *5.50/6* | Thesis: *6/6*

Exchange: NTU, Singapore

UNIVERSITY OF BERN

BSC IN COMPUTER SCIENCE

Sep. 2013 - Aug. 2018 | Switzerland

Grade average: *5.41/6* | Thesis: *6/6*

Exchange: University of Exeter, England

LINKS

Google Scholar

LinkedIn:// [joelniklaus](#)

Twitter:// [@joelniklaus](#)

Github:// [joelniklaus](#)

HuggingFace:// [joelniklaus](#)

SKILLS & INTERESTS

LANGUAGES

German • English • Spanish • French

PROGRAMMING

used regularly:

Python • Java • PHP • TypeScript

can get things done:

Kotlin • Sass • SQL • \LaTeX

FRAMEWORKS

transformers & datasets • PyTorch • JAX •

PAX • T5X • SeqIO • SpaCy • Keras

TOOLS

Docker • Git • PyCharm • AWS • GCP

RESEARCH INTERESTS

Legal NLP • Data Centric ML •

Benchmarking • Multilingual Language

Model Pretraining • Instruction Tuning

EXPERIENCE

(GOOGLE) X | PHD RESIDENT

Jul. 2023 - Nov. 2023 | Mountain View, United States

I pretrained and instruction tuned multi-billion parameter multilingual LLMs in the Legal Domain on hundreds of TPU cores achieving state-of-the-art on LegalBench.

THOMSON REUTERS LABS | DATA SCIENCE INTERN

Mar. 2022 - Aug. 2022 | Zug, Switzerland

I cheaply pretrained Longformers for the Legal Domain. Patent Application pending.

NIKLAUS.AI | AI CONSULTANT

Apr. 2022 - present | Bern, Switzerland

I consult companies on topics in AI, and especially in NLP. Selected customers: Swiss Federal Supreme Court, Darrow AI Ltd. (Legal Judgment Prediction in the US)

BERN UNIVERSITY OF APPLIED SCIENCES | LECTURER

Aug. 2021 - present | Bern, Switzerland

I lecture about LLMs in three applied modules on AI.

I planned and conducted the technical part of the module Software Engineering.

UNIVERSITY OF BERN | LECTURER AND TEACHING ASSISTANT

Sep. 2015 - present | Bern, Switzerland

I co-teach about transformers (CAS), planned and led the “NLP Seminar” (BSc/MSc), and was a TA for “Programming Languages” (MSc), “Software Engineering” (BSc) and “Computer Networks” (BSc).

AWARDS

2023	Nomination	Best Paper ARR December for MultiLegalPile paper
2021	Research Grant	60'000 CHF for Swiss Federal Supreme Court
2019	Nominee	Best MSc Thesis, University of Fribourg, Department of Computer Science
2017	Winner	Excellent Work in Computer Science (BSc Thesis), Joint Alumni Assoc., Universities Bern, Neuchâtel & Fribourg

SELECTED PUBLICATIONS

J. Niklaus, L. Zheng, AD. McCarthy, C. Hahn, BM. Rosen, P. Henderson, DE. Ho, G. Honke, P. Liang, C. Manning

FLawN-T5 : An Empirical Examination of Effective Instruction-Tuning Data Mixtures for Legal Reasoning

Under submission at **COLM 2024**, Philadelphia, United States

R. Stern, V. Rasiyah, V. Matoshi, S. Bose, M. Stürmer, I. Chalkidis, D. Ho, **J. Niklaus**

SCALE : Scaling up the Complexity for Advanced Language Model Evaluation

Under submission at **Journal for AI and Law**

J. Niklaus, V. Matoshi, M. Stürmer, I. Chalkidis, D. Ho

MultiLegalPile : A 689GB Multilingual Legal Corpus

DMLR @ ICML 2023, Hawaii, United States

J. Niklaus, V. Matoshi, P. Rani, A. Galassi, M. Stürmer, I. Chalkidis

LEXTREME : A Multi-Lingual and Multi-Task Benchmark for the Legal Domain

EMNLP Findings 2023, Singapore, Singapore