

# Joel Niklaus

Schwarztorstrasse 108, 3007 Bern, Switzerland  
joel@niklaus.ai | (+41) 78 664 46 59

## EDUCATION

### STANFORD UNIVERSITY

#### RESEARCH VISIT

Oct. 2022 - Mar. 2023 | Switzerland  
Advisors: Daniel E. Ho and Percy Liang  
Collaboration with the CRFM

### UNIVERSITY OF BERN

#### PHD IN COMPUTER SCIENCE

Jul. 2020 - Jan. 2024 | Switzerland  
NRP 77 Project: Open Justice vs. Privacy  
Advisors: Matthias Stürmer, Paolo Favaro and Ilias Chalkidis

### 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).

### FASTFORWARD WEBSOLUTIONS GMBH | WEB DEVELOPER

Sep. 2017 - Jun. 2018 | Bern, Switzerland  
I independently developed an easy-to-use user interface for a calculator of supplementary services (old age insurance) for Pro-Senectute Switzerland in close collaboration with the client

## AWARDS

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

V. Rasiah, R. Stern, V. Matoshi, M. Stürmer, I. Chalkidis, D. Ho, **J. Niklaus**  
**SCALE** : Scaling up the Complexity for Advanced Language Model Evaluation  
Under submission at **ICLR 2024**, Vienna, Austria

**J. Niklaus**, V. Matoshi, M. Stürmer, I. Chalkidis, D. Ho  
**MultiLegalPile** : A 689GB Multilingual Legal Corpus  
**DMLR @ ICML 2023**, Hawaii, US

**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

**J. Niklaus**, I. Chalkidis, M. Stürmer  
**Swiss-Judgment-Prediction** : A Multilingual Legal Judgment Prediction Benchmark  
**NLLP @ EMNLP 2021**, Punta Cana, Dominican Republic