



NICHOLAS KLUGE CORRÊA

📍 53121 BONN, GERMANY 📞 +49 15 231407450

🏠 DETAILS

Euskirchener Str. 20
53121 Bonn
Germany

+49 15 231407450
kluge@uni-bonn.de

Date of birth
17/03/1989

👤 PROFESSIONAL SUMMARY

- Author of the book "**Normative Ethics, Artificial Intelligence, and Value Alignment: From Normative Theory to Engineering Practices**" (Springer Nature, 2026).
- Accomplished **researcher and machine learning engineer with over 10 years of expertise in academia**, driving advancements in **Applied Ethics** and **Machine Learning**, particularly in the realm of AI Ethics and Low-Resource Languages/NLP.
- Expertise in **developing innovative frameworks for trustworthy AI**, fostering interdisciplinary collaborations, and mentoring emerging scholars.
- Pioneer in the **development of foundation models** for low-resource languages.
- Passionate about **building open-source projects**.
- Prepared to **lead in a research and development environment**.

<> TECHNICAL PROFILE

During my work, I built a **full stack** that powers the development of open language models — from data and tokenizers, through pretraining and alignment, to evaluation — on large HPC systems. During this time, I gained extensive experience in foundation-model training, data management, evaluation, HPC orchestration, and responsible AI tooling.

- **Foundation-model training.** I am familiar with distributed pretraining using a wide range of parallelism and optimization techniques, such as DDP, FSDP2, tensor, sequence and expert (MoE) parallelism, FP8 mixed precision, Flash Attention (up to FA4 on Hopper/Blackwell) and Liger Kernel. I am also familiar with training hybrid attention/state-space architectures. In terms of post-training, I have experience with SFT, DPO, GRPO with verifier-based rewards, and reward-model training.
- **Data, tokenization and synthetic data generation.** I have experience with multi-node corpus pipelines using DataTrove for data preprocessing, tokenization, and quality assurance. I have also worked on the generation of large-scale synthetic corpora, Constitutional AI-style pipelines, and agentic reasoning-trace generation with a stack built on vLLM, DataTrove and smolagents.
- **Evaluation.** I maintain an evaluation stack built on the LM Evaluation Harness, and I am quite familiar with designing, implementing, and running comprehensive evaluation pipelines for language models.
- **HPC and engineering.** I am comfortable working with HPC clusters, specifically clusters managed via SLURM (e.g., JSC JUPITER Booster), and with containerised HTCondor.
- **Core stack:** Python, Bash, SLURM, HTCondor, Git, PyTorch, Hugging Face (Transformers, Tokenizers, Datasets, PEFT,TRL, smolagents), vLLM, SGLang, mergekit, SentencePiece.

📁 SELECTED OPEN-SOURCE PROJECTS

My open-source work follows the same arc as my research: building open language models for underserved languages, evaluating them rigorously, and developing the ethics and safety tooling that surrounds them. Models and datasets are published on the [Polyglot Hugging Face organisation](#) and on my [personal Hugging Face account](#).

Open models and training infrastructure

- [LLM Foundry \(Polyglot\)](#) — Cluster-ready codebase for training and evaluating LLMs, covering data processing, tokenization, pretraining, alignment (SFT/DPO/GRPO), synthetic-data generation and evaluation.
- [Language Model Evaluation Harness \(Polyglot fork\)](#) — Evaluation backbone for our models, synced with EleutherAI's harness, along with all the evaluations we have implemented over the years (see branches).
- [Tucano](#) and [TeenyTinyLlama](#) — Natively pre-trained open Portuguese language models, from tiny to larger scale.

AI ethics, safety and alignment

- [Ethical Problem Solving \(EPS\)](#) — Framework for developing safe and ethical AI, the outcome of my work at RAIES.
- [Worldwide AI Ethics \(WAIE\)](#) — Systematic literature review and interactive dashboard of global AI-ethics research.
- [TeenyTinyCastle](#) — Educational tools for AI ethics and safety research.

EMPLOYMENT HISTORY

Postdoc Researcher at Bonn-Aachen International Center for Information Technology (b-it), Bonn

Feb 2026 — Present

At the Bonn-Aachen International Center for Information Technology (b-it), I work as the principal investigator of the Polyglot project. I also advise and mentor bachelor's, master's, and PhD students.

Postdoc Researcher at Center for Science and Thought, Bonn

Feb 2024 — Jan 2026

At the Center for Science and Thought, I worked on the "Zertifizierte KI" project, one of the KI.NRW flagship projects financed by the Ministry of Economic Affairs, Innovation, Digitalization and Energy of the State of North Rhine-Westphalia, which seeks to develop certification methods for trustworthy artificial intelligence (AI).

Research Scholar at University of Bonn

Oct 2023 — May 2024

I was a PhD research scholar at the University of Bonn. There, I developed:

- A series of language models and datasets designed to align large language models.
- A series of open-access educational lectures on how to create ethical and safe ML systems.

Project Lead at RAIES, Porto Alegre

Jun 2022 — May 2024

Here, I helped coordinate and develop several research efforts on a multi-stakeholder research network called RAIES (Network for Ethical and Safe Artificial Intelligence). Primarily, I led:

- Development of algorithmic impact assessment tools.
- Development of value-sensitive design tools.
- Mentoring undergraduate and graduate students in their research.
- Collaboration with researchers from other universities and institutes to create successful interdisciplinary projects.

All this research culminated in a framework called Ethical Problem Solving, as well as the [Responsible AI platform \(RAIP\)](#).

Research Scholar at PUCRS

Mar 2020 — Oct 2022

I was a research scholar at the Pontifical Catholic University of Rio Grande do Sul (PUCRS, Brazil). During this time, I helped found two organizations: the [AI Robotics Ethics Society at PUCRS](#) and the [Network for Ethical and Safe Artificial Intelligence](#).

EDUCATION

Ph.D. | Summa cum laude | University of Bonn

Oct 2022 — May 2024

- Ethics of Artificial Intelligence (Philosophy).

Ph.D. | Summa cum laude | Pontifical Catholic University of Rio Grande do Sul

Dec 2019 — May 2024

- Ethics of Artificial Intelligence (Philosophy).

Master in Electrical Engineering, Pontifical Catholic University of Rio Grande do Sul

Aug 2015 — Aug 2017

- Applied Machine Learning and Digital Signal Processing (Electrical Engineering).

Bachelor in Health Sciences, Pontifical Catholic University of Rio Grande do Sul

Mar 2010 — Dec 2014

- Applied biomechanics and human physiology.

🎯 THIRD-PARTY FUNDING

I have secured third-party support from funding bodies in Brazil and Germany, including DAAD, CNPq, FAPERGS, and TRA 6 Sustainable Futures. Most notably:

- All my graduate studies (MSc and Doctorate) were financed via study grants from agencies such as DAAD and CNPq.
- During my stay at PUCRS, I founded the AI Robotics Ethics Society (AIRES), a successful non-profit think tank that later gave rise to RAIES (Network for Safe and Ethical AI). The Network was established with a grant of approximately 3 million reais (approximately €500,000), awarded to AIRES and the Pontifical Catholic University of Rio Grande do Sul, based on a project proposal I authored during my PhD.
- During my stay at the University of Bonn, I co-initiated the Polyglot Project, a [TRA6-funded](#) initiative designed to promote openness and diversity in modern NLP by developing foundation models and related resources for low-resource languages.
- In May 2026, my research group (Polyglot) applied for compute time and received 4.6 million core-hours at the Jülich Supercomputing Centre (JSC).

★ AWARDS

- Honorable Mention for the work performed in *"Dynamic Normativity: Necessary and Sufficient Conditions for Value Alignment"*, CAPES Doctoral Thesis Award 2025.

🔗 LINKS

My Website

<https://nkluge-correa.github.io/>

Hugging Face

<https://huggingface.co/nicholasKluge>

ResearchGate

<https://www.researchgate.net/profile/Nicholas-Correa-2>

GitHub

<https://github.com/Nkluge-correa>

Google Scholar

<https://scholar.google.com/citations?user=LB-Ukr8AAAAJ>

LinkedIn

<https://www.linkedin.com/in/nicholaskluge>

🌐 LANGUAGES

English Fluent

Portuguese Native

Spanish Fluent

German Basic

📖 REFERENCES

References available upon request.