Benno Krojer

benno.krojer@gmail.com | bennokrojer.com | Twitter | GitHub

EDUCATION

MILA – Quebec Artificial Intelligence Institute / McGill University 2021 – 2026
PhD in Computer Science *Montreal, Canada*

Courses: Applied Machine Learning, Mathematical Tools for Computer Science, Representation Learning (UdeM), Reinforcement Learning (all with grade A)

LMU Munich 2016 – 2020
Bachelor of Science in Computational Linguistics, Minor in Computer Science *Munich, Germany*
- Grade: 1.1 (equivalent to GPA of 3.9), top of class
- Thesis: Are Pretrained Language Models Symbolic Reasoners Over Knowledge? (supervised by Hinrich Schütze)

Trinity College 2018 – 2019
Erasmus Exchange for 2 semesters *Dublin, Ireland*

INDUSTRY AND RESEARCH EXPERIENCE

Research Intern in Language Grounding (full-time) 2021 – 2021
MILA - Quebec Artificial Intelligence Institute *Montreal, Canada*

- Vision-and-Language Research

Research Intern in Machine Translation (full-time) 2020 – 2021
Lilt GmbH *Berlin, Germany*

- Research on novel attention mechanisms in Transformers to improve coverage in Neural Machine Translation

Machine Learning Intern in Computer Vision for Robots (full-time) 2020 – 2020
Micropsi Industries *Berlin, Germany*

- Making the computer vision model deployed on robots more robust against difficult light conditions

Research Assistant in Machine Translation (20h/week) 2020 – 2020
LMU Munich *Munich, Germany*

- Researched adversarial attacks, data augmentation and test set creation for Coreference Resolution in Neural Machine Translation together with Prof. Alexander Fraser and his PhD students (publication listed below)
- Responsible for code repository and 2-3 sections of the resulting paper

Deep Learning Engineer (20h/week) 2019 – 2020
Helsing (named Hellsicht GmbH at the time) *Munich, Germany*

- Cell image segmentation pipeline with U-Net & ResNet models for client from the pharmaceutical industry
- Predictive Maintenance in mechanical systems
- Developing a demo for a workshop on automatic visual inspection of surfaces
- Clustering of point clouds into relevant buildings or landscape objects

Computational Linguistics Progammer (10h/week) 2017 – 2018
Intrafind GmbH *Munich, Germany*

- Improving language identification system used in Intrafind's Search Engine
- Identifying bugs in complex source code and analyzing corpora

PUBLICATIONS

- [Are Diffusion Models Vision-And-Language Reasoners?](#)
  Benno Krojer, Elinor Poole-Dayan, Vikram Voleti, Christopher Pal, Siva Reddy.
  Conference on Neural Information Processing Systems (NeurIPS), 2023.

- [Image Retrieval from Contextual Descriptions](#)
  Benno Krojer, Vaibhav Adlakha, Vibhav Vineet, Yash Goyal, Edoardo Ponti, Siva Reddy.
  Association for Computational Linguistics (ACL), 2022.

- [Are Pretrained Language Models Symbolic Reasoners Over Knowledge?](#)
  Nora Kassner*, **Benno Krojer***, Hinrich Schütze.
  Conference on Computational Natural Language Learning (CoNLL), 2020.

- [ContraCAT: Contrastive Coreference Analytical Templates for Machine Translation](#)
  Dario Stojanovski*, **Benno Krojer***, Denis Peskov*, Alexander Fraser.
  Conference on Computational Linguistics (COLING), 2020.

- [Improving Automatic VQA Evaluation Using Large Language Models](#)
  Oscar Manas, **Benno Krojer**, Aishwarya Agrawal.
  AAAI Conference on Artificial Intelligence, 2023

- [Pragmatic Inference with a CLIP Listener for Contrastive Captioning](#)
  Jiefu Ou, **Benno Krojer**, Daniel Fried.
  Findings of the Association for Computational Linguistics (ACL) 2023

---

*equal contribution

SCHOLARSHIPS

- Vanier Scholarship (50.000 CAD/year, 2023 - 2026)

- Nick Cercone Scholarship (6.000 CAD, 2022)

- FRQNT Scholarship (declined, 2023)

ACADEMIC SERVICE AND TALKS

- Reviewing: [Multilingual Multimodal Learning (MML) Workshop at ACL 2022](#)

- Talks: ACL Oral Presentation (May 2022), Samsung/Mila/NYU Workshop (April 2022), Copenhagen NLP Reading Group (April 2022)

- Workshop Organization: NewInML at NeurIPS 2023 (lead organizer of speaker selection)

- Supervision: Michelle Yang (undergraduate independent study in Linguistics, McGill)

- Teaching: TA for COMP 451 (Fundamentals of Machine Learning)

- Volunteering for [AI Helps Ukraine](#) (Nov 2023)

- Reviewer of applications of Mila PhD/MSc cohort 2023 (Dec 2023)

SKILLS

Natural Languages: German (native), English (near native), French (B1)
Programming Languages: Python, Java, C++, Haskell, Prolog, Javascript/HTML
Technologies: PyTorch, NumPy, Tensorflow, slurm, pandas bash, git, OpenCV, Matplotlib, LaTex, slurm, NLTK, JavaFX, Docker

Extra-Curricular

Founder of LaGMEI Reading Group   Oct. 2021 – Today

Mila   *Montreal, Canada*

- Reading group focusing on Language Grounding in Multi-Modal Environments and Interaction (LaGMEI)

Founder of *PhilosophiaMunich*, a Student Philosophy Society   Aug. 2019 – Jul. 2021

TUM/LMU Munich   *Munich, Germany*

- Organization of regular paper discussions, speaker events, dedicated reading groups and socials

- Creating Social Media Content & recruiting new members

Competitive Ultimate Frisbee   2011 – Today

- Highlights: U24 Worlds and U17 Euros for German National Team, 8th best club in Europe 2018

- Coaching: currently Mixed senior team in Montreal, Munich Juniors Team for several years

- Supervised children at sports camp for two years during their school holidays, as full-time paid voluntary work

Member of Student's Committee (Fachschaft)   Oct. 2017 – Jun. 2018

Organization of events such as Christmas or Summer party