



# MARTIN KRUTSKÝ

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In search for ethical and aligned AI. I have worked on AI in both academia and industry, from designing custom backpropagation, through training end-to-end systems with Pytorch, to using and safeguarding LLMs. I am interested in making DL systems safe with explainability methods and neuro-symbolic AI. I am currently working on *AI safety*, *explainability*, and *geometric deep learning*.


All researchers should take part in responsible development of AI. For me, part of the journey is studying philosophy, AI ethics, and discussion with researchers from other disciplines.

**STATUS** | **AI Researcher** at FEE CTU, **President** of the [Czech Alpha Chapter of UPE](#), [prg.ai Minor](#) graduate. Member of [Responsible AI discussion group](#), see my talks on [RAI](#) (English), [AI ethics](#) (Czech)

**PROJECTS** | Prosocial alignment with neuro-symbolic AI with [IACS](#), [GNNs for CO](#) (under review at ICML), [geometric DL for Rubik's cube](#) (under review in IEEE TNNLS)


**PREPRINTS** | ["Cause" is Mechanistic Narrative within Scientific Domains](#)

**THESES** | Master thesis: [Interpretable Symmetry-Aware Deep Learning for Planning](#);  
Bachelor thesis: [Exploring Symmetries in Deep Learning](#);


**EXPERIENCE** | **AI RESEARCHER, PHD STUDENT**  IDA FEL ČVUT  
SINCE 03/2024  
Researching DL interpretability and structured models (neuro-symbolic AI, GNNs).

**ML RESEARCHER AND DATA ANALYST**  LEEAF  
08/2023-03/2024  
Researching and developing ML methods on medical data for improving in vitro fertilization.

**SOFTWARE ENGINEERING INTERN**  MICROSOFT  
07/2022-09/2022  
Modeled monitoring metrics of server load. Analyzed issues causing significant compute costs.

**MACHINE LEARNING DEVELOPER**  BLINDSPOT SOLUTIONS  
10/2020-05/2022  
Developed NLP solutions, chatbots with BERT, deployed with Docker. Researched pricing models.

**PART-TIME DEVELOPER**  BARCLAYS  
09/2019-09/2020  
Developed server activity prediction system using Flask and scikit-learn saving monitoring time.

**STUDENT RESEARCHER**  CMP, FEL ČVUT  
07/2018-08/2018, 02/2019-07/2019  
Researched recognition of nationality and first impressions using convolutional NNs.

**EDUCATION** | **HUMAN-ALIGNED AI SUMMER SCHOOL**, PRAGUE, CZECH REPUBLIC; 2024

**MASTER OF ARTIFICIAL INTELLIGENCE – FEL ČVUT**, PRAGUE; 2021-2024  
ML, DL, Robotics, Game Theory, Big Data, Planning; [Anomaly Detection Example Project](#)

**AALTO UNIVERSITY – ERASMUS PROGRAM**, ESPOO/HELSINKI, FINLAND; 2023

**SUMMER SCHOOL AI & ETHICS**, UNIVERSITY OF BAMBERG, GERMANY; 2022

**PRG.AI MINOR - SELECTIVE PROGRAM OF AI CURRICULA IN PRAGUE**; 2019-2021  
ML, DL, AI security, safety. Graduated 10/2021, remaining active in the community.

**BACHELOR OF AI AND COMPUTER SCIENCE – FEL ČVUT**, PRAGUE; 2018-2021  
Scholarship for talented students; AI, Optimization, Functional Programming, Algebra, Calculus

**SKILLS** | **GenAI**: LLMs, guardrails, document retrieval, OpenAI-style APIs, LangChain, Diffusion models  
**Machine Learning**: PyTorch, PyTorch Geometric, XGBoost, Transformers, Scikit-learn  
**Data Science**: Pandas, Numpy, Seaborn/Matplotlib, basics of Hadoop and Spark  
**DevOps**: Docker, Google Cloud, AWS, Git, JIRA, GNU/Linux, Windows  
**Programming languages**: Python, SQL, Java, basics of C/C++, Kotlin, JavaScript

**LANGUAGES** | **Czech** – native speaker; **English** – proficient/C1 level; **German** – basic communication/A2-B1 level

**MISC** | 2014-2018 chess tutoring at Chess Club Teplice.