Lukas Rasocha

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Data Science Master's student at the Technical University of Denmark, passionate about applying artificial intelligence to solve real-world challenges. Actively seeking opportunities for collaborative research projects in machine learning or data science.

Education

Technical University of Denmark (DTU) – MSc Human-Centered Artificial Intelligence — Sept 2023 – Dec 2025
IT University of Copenhagen (ITU) – BSc Data Science (**GPA:** 11.1/12 | top 1 %) — Sept 2020 – June 2023

- **Courses:** Machine Learning, Natural Language Processing, Deep Learning, Large-Scale Data Analysis, Computational Data Analysis, Deep Learning in Computer Vision, Social Graphs and Interactions, Network Analysis, Applied Statistics, Algorithms & Data Structures, Computational Tools for Data Science, Machine Learning Operations, Database Systems and others
- **Activities:** Founder & President AITU (AI student club), Student Ambassador, Student Mentor, Chess club

Experience

Data Engineer, LEGO Group, Denmark — Feb 2024 – Present

- Building a scalable self-service data platform with a focus on data compliance and integrity using AWS and Databricks.

Software Engineer, Computas, Denmark — Jan 2022 – Feb 2024

- Developed an end to end internal desk booking application using Python, GCP and MongoDB for $350+$ employees.
- Contributed to ZenML open-source MLOps framework.
- Certified Google Cloud Professional Data Engineer.

Research Intern, RoGlove, Technical University of Denmark Skylab — Nov 2022 – Jan 2023

- Development of an AI-powered rehabilitation glove. Created a real-time data visualization system for glove sensor readings.

Teaching Assistant, IT University of Copenhagen — Aug 2021 – Dec 2021

- TA for Data Science bachelor students in courses Introduction to Data Science and Programming, Linear Algebra

Selected Projects

- **Interactive Neural Cellular Automata for Game Level Generation** *(supervised by Prof. Sebastian Risi)*: Developed a system for AI-assisted game level design using Neural Cellular Automata (NCA) model trained using Quality Diversity Optimization. Furthermore introduced interactivity to the NCA models, which allows game designers to fix specific tiles in the generated game levels. (zeldalevelcraft.com).
- **AITU Group**: Leading a student-led organization hosting AI research reading groups, talks and lab projects (aitu.group).
- **Better Reasoning with SLMs** *(ongoing project, supervised by Prof. Ole Winther)*: Assessing the robustness of Monte Carlo Tree Search and mutual-consistency techniques in enhancing the reasoning capabilities of small language models.
- **Language Capabilities of PLStream**: Authored a research paper during the Deep Learning course, assessing the language capabilities of the unsupervised sentiment labeling framework PLStream using the Checklist framework. (report)
- **Enhance Patient 3D Datasets with Diffusion Models** *(ongoing project, supervised by Frederik Warburg, PhD.)* Generating realistic synthetic data that captures patient movements, behaviors and interactions with their surroundings to provide more varied and customizable training data for models trained to detect patient's actions.

Skills

Programming: Python, R, Java, C#, F#, GoLang, JavaScript,
Technical Skills: ML/DL, Statistical Learning, DevOps, MLOps, Data Analytics, Data Visualisations, Statistics
Technologies: Git, AWS, GCP, Databricks, Docker, Apache Spark, REST API, PyTorch, NumPy, Pandas, WandB, DVC, PostgreSQL, MongoDB, Firebase, Supabase, mlflow, LaTeX
Human Languages: English (Fluent), Danish (Intermediate), Czech (Native), Russian (Basic), German (Intermediate)

Awards and Achievements

- Winner, **Startup competition: T-Mobile Rozjezdy** (2019).