



Daniel Skala

SW / ML / Data Engineer

From Research to Production

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Linkedin: www.linkedin.com/in/drock42

Fluent Languages: English, Slovak, Czech

WORK EXPERIENCE



Data Engineer at Cisco

Full-time, Netherlands

Jan 2024 – Present

1 yr

- **Developed the AI Polls feature**, from concept to production, suggesting AI-generated Slido polls based on presentation content; showcased at **Webex One** and became the **most popular AI feature in Slido**.
- **Designed the AI Quiz feature**, generating quizzes from user-input topics; **led a team to increase quiz correctness by 32%**, achieving **93%** accuracy with advanced prompting and verification strategies.
- **Built the Question Copilot feature** to improve and paraphrase user-submitted questions in Slido's Q&A section; used by **100k+** users, significantly enhancing the user experience and reducing editing time.
- **Filed 2 patents** related to novel ML/NLP applications in topic modelling and poll generation.
- **Published 2 scientific papers** presented at **world-class conferences**, showcasing innovations in LLMs such as our prompt-engineering tool: prompterator or SOTA climate stance detection.
- Developed **4 AI features** from idea to **production**, spanning architecture, testing, and monitoring (CI/CD).
- **Tools:** Python, GitHub, AWS, Docker, k8s, NewRelic, SQL, FastAPI, Superset, ETL, dbt, Airflow, W&B



Software / ML Engineer at Slido

Part-time, Netherlands

Jun 2021 – Jan 2024

2 yrs 10 mos

- **Developed the Questions by Topics feature**, clustering questions by lexical and semantic similarity; achieved **11.3M topic clicks**, improving discoverability and increasing **questions seen per user by 28%**.
- Optimized the topic clustering algorithm, **increasing speed by 60%** using a tree-based structure for efficient embedding retrieval leading to **10% increase** in user engagement.
- **Reduced latency by 40 %** of all LLM-based features by converting them into asynchronous streaming objects, improving scalability for real-time user interactions.
- **Contributed as a core developer** to the Questions by Topics feature, driving its implementation with tools like streamlit, Elasticsearch, AWS Lambda, HDBSCAN, UMAP, NLTK, PyTorch, sBERT, and TopicRank.



Python Developer at Gerulata

Internship, Slovakia

Jul 2020 – Aug 2020

2 mos

- Developed **speed-optimized parsers** using the Aho-Corasick algorithm, processing over **10k** websites per second to extract key entities like names, IBANs, and locations using Python, Open Street Map, and regex.
- The parsers were used to create a **dynamic graph of the internet** to monitor political climate and track hoax information in Slovakia.

EDUCATION



Artificial Intelligence, MSc.

University of Groningen, Master's Degree

Sep 2022 – Feb 2025

Thesis: Multilingual Mathematical Reasoning in Low-Resource Languages with LLMs

Computing Science, BSc with Hons

University of Groningen, Bachelor's Cum Laude Degree

Sep 2019 – Jul 2022

Thesis: Multi-Document Keyphrase Extraction



Teaching Assistant for 6 courses

Object Oriented Programming | Linear Algebra and Multivariable Calculus | Intro to Logic, Information Systems | Intro to ML | Natural Language Processing

Sep 2019 – Jul 2024



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PROJECTS



Sentelo learning platform

Co-founder, Netherlands

Jan 2023 – Feb 2024

- Co-founded **Sentelo**, a GPT-based learning platform with **adaptive AI** tutoring and powerful features like Google-enhanced chat and custom instructions.
- Built Sentelo as a **browser-integrated tool**, enabling use across platforms like YouTube, Google Docs, and Gmail; now live at www.sentelo.com.



Alert system software for EV Biotech

Jan 2021 – Jun 2021

- Developed a proof-of-concept **alert system** to speed up the research and communication among the EV Biotech employees within their E-lab API. (Stack: Python, MongoDB)

Self-organising graph using Simulated Annealing

Apr 2019 – Jun 2019

- Custom-made library for complex graph visualization via self-organization using simulated annealing.

PUBLICATIONS



Bryndza at Climate Activism 2024

Stance, Target and Hate Event Detection via Retrieval-Augmented GPT-4 and LLaMA
ArXiv (at EACL Malta)

Feb 6, 2024



Prompterator: Iterate Efficiently towards More Effective Prompts

ACL (at EMNLP Singapore)

Dec 31, 2021

PATENTS



Automatic Poll Generation Based on User Communications

No. US12149493 · Issued

Nov 20, 2024

Automatic Extraction of Semantically Similar Question Topics

No. US18065758 · Filed

Dec 14, 2022

HONORS & AWARDS



LEAF Award

Slovakia

Nov 2016

- Recognized under the **auspices of Slovak President Andrej Kiska** with a **€6,000** award and mentorship from IT experts at Cambridge and Imperial College London for co-founding the Social Scholarship Fund project, leading a student café business, and my early **achievements in the IT industry**.

SKILLS & INTERESTS



Movie-like presentations / animations
in PowerPoint



3D modelling in Google Sketchup



Piano / Drums