Tomáš Majerčík

Student at Faculty of Informatics and Information Technologies, STU;

NLP Research Intern at KInIT

Contact

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Portfolio: https://tomasmajercik.github.io

GitHub: https://github.com/tomasmajercik

Education

2023 - present
Faculty of Informatics and Information Technologies, STU

2019 - 2023
Gymnázium Antona Bernoláka

Language

Slovak   Native
English: Upper-intermediate
German: Begginer

Top skills

Programming languages
Python · Pytorch · Transformers (lib) · PHP · JavaScript · React JS / native · HTML · CSS · PostgreSQL ·

Programming Tools
Git (GitHub) · Figma · Latex · Linux (Command prompt) · Arduino

Soft skills
Mentorship · Adaptability · Problem Decomposition · Teaching Complex · Communication · Time Management · Topics Simply · Responsibility · Patience · Creativity Skills

About Me

Currently, I am studying at the Slovak University of Technology, Faculty of Informatics and Information Technologies. Playing guitar has been a big part of my life - it has taught me patience, creativity, and the joy of continuous learning. I'm passionate about coding, problem-solving, and building cool things with technology. I enjoy exploring different areas of tech, from software development to AI.

Work Experience

NLP Research Intern

Intern Researcher in Bratislava, Slovakia
- Jun 2025 - present
- AI, machine learning
- mechanistic interpretability
- research oriented
- presenting my work
- Memory-efficient training

Programko

Lecturer in Bratislava, Slovakia
- October 2024 - January 2025
- Lecturing scratch on a primary school

Projects

Language specific neurons   Python · PyTorch · HF
- Identified language-specific neurons in multilingual transformer models using entropy-based analysis
- Implemented a pipeline with Hugging Face models to record neuron activations and compute LAPE entropy across multiple languages
- Built and saved language-specific neuron masks to enable targeted analysis and intervention
- Prepared ground for leveraging these neurons to improve fine-tuning on low-resource languages through selective capacity reallocation
+ LoRA, Quantization, PyTorch hooks, Entropy analysis (LAPE)
+ SSH (remote GPU), Code optimization, Visualization
+ Paper replication, Presentation / reporting

Code completion evaluation   Python · Hugging Face
- Prepared a dataset for fill-in-the-middle code completion using AI models (StarCoder2, Hugging Face)
- Evaluated outputs with NLP metrics (Exact Match, chrF++, Levenshtein)
- Manually analyzed model behavior and code prediction quality

Turnify mobile app   React Native · NodeJS · PostgreSQL
- Developed a cross-platform mobile app for organizing tournaments
- Complete mobile app development
+ Frontend / REST API with Node.js (Express.js) / Database skills
+ UI, design, collaboration

Document Management   ReactJS · SASS · PHP · MySQL
- A document management web app
- Implemented file uploading, managing, and downloading
+ Database for storing documents and photos
+ Handling problems with file uploading and storing

Arduino projects   Embedded C++ (Arduino)
- Explored embedded systems by working with Arduino
- Experimented with sensors and actuators
+ Fundamental understanding of electronics
+ Real-time programming and sensor data processing
+ Hands-on prototyping

More work on the github link