

Faidra Anastasia Patsatzi

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EDUCATION AND ACHIEVEMENTS

- 10/2023–present** **Technical University of Munich (TUM)**
M.Sc. Electrical Engineering and Information Technology
Current grade (German): 1.1 | GPA: 3.9 (top 2%)
- 10/2020–07/2023** **Technical University of Munich (TUM)**
B.Sc. Electrical Engineering and Information Technology

B.Sc. German Grade: 1.3 | GPA: 3.8
Bachelor thesis: “Randomized Smoothing as an Adversarial Defense Mechanism for Inverse Problems”, supervised by Prof. Reinhard Heckel, Professorship of Machine Learning, TUM, graded 1.0 (GPA: 4.0)
Awarded a merit-based full scholarship for the B.Sc. & consecutive M.Sc. by the DAAD
- 09/2014–06/2020** **Deutsche Schule Athen (German School of Athens), Greece**
EP (Abitur): 1.0, Valedictorian

WORK EXPERIENCE

- 09/2024–present** **GenAI Research Scientist Working Student, BMW Group Research and Innovation Center**
· Integration of Ontology-Based Semantic Models for Relational Databases into Multi-Agent RAG Frameworks
- 06/2023–08/2024** **Machine Learning Engineer Working Student, Siemens AG**
· Contribution to an end-to-end article processing pipeline consisting of a data transformation, translation, and NER component, automated generation of synthetic NER test data using GPT-4, evaluation of a BERT NER model
· Programming of a RAG application using LLM chain techniques and prompt engineering
· Development of an LLM chatbot application interacting with a Snowflake database using LangChain/LangGraph
- 11/2022–05/2023** **Software Engineering and Analytics Working Student, metafinanz Informationssysteme (Allianz Group)**
· Development of a near real-time product analytics solution using application logs
· Training, fine-tuning, and deployment of a machine learning model for a text classification task (SVM with TF-IDF) and development of a REST API using FastAPI
- 08/2021–10/2022** **Student Assistant, Technical University of Munich (TUM)**
· Assistant at the preparatory mathematics course for electrical engineering students (WS21 & WS22)
· Tutor in “Programming in C” (LDV)
· Tutor in “System Theory” (MSV)

PROJECTS AND PROGRAMMES

- 11/2022–present** **Board Member at she.codes by T.E.C.**
Volunteering at a TUM student club providing free coding workshops in Python to girls aged 11 to 14.
- 10/2023** **QuantCo GAC Scholarship**
- 10/2022–10/2023** **Co-Founder of neuroTUM** **Deep Learning, PyTorch**
Student research group focusing on neuroengineering, BCI (Brain-Computer Interface)
Member of the Deep Learning team; performing multi-class classification using networks such as CNN-LSTM, transformers and ViTs, on data sampled from EEG-recorded brain signals.
- 02/2023** **U-Net for Brain MRI Segmentation (Project for course EI04024)** **Deep Learning, PyTorch**
Implemented and trained a U-Net architecture with a custom weighted binary cross entropy loss on a dataset containing brain MRI scans and tumor diagnoses in segmentation masks, graded 1.0.
- 11/2022** **Siemens Mentoring Programme, Cohort 2022-2023**

SKILLS & TECHNICAL KNOWLEDGE

Programming Languages: Python, C++, C, SQL, basic HTML and CSS

Technologies: PyTorch, transformers, LangChain, spacy, scikit-learn, Pandas, Numpy, Matplotlib, Git, Docker, Streamlit, pyomo, Jupyter Notebooks, PowerBI, Azure Cloud Services, AzureML, Azure OpenAI, Azure Cognitive Search, Redis

Languages: German (C2), English (C2), Greek

Soft Skills: Debate (attended 14 international MUN conferences), Organization of own school's MUN conference and moderation of opening & closing ceremonies (DSAMUN 2019)