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: 1.1 | GPA: 3.9 (top 2%) Relevant coursework: Fundamentals of Foundation Models, Deep Learning for Inverse Problems, Seminar on LLM Finetuning, Computer Vision, Approximate Dynamic Programming and Reinforcement Learning
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 Scientist Working Student, *BMW Group Research and Innovation Center*** · Developing a PoC for agentic RAG using LangGraph: a custom approach for integrating a global ontology graph to a multi-agent system interacting with multiple databases (text2SQL)
06/2023–08/2024	**Machine Learning Engineer Working Student, *Siemens AG*** · Contribution to an end-to-end business news article processing pipeline ingesting 10,000+ articles daily, consisting of a data transformation, translation, and NER component, automated generation of synthetic NER test data using GPT-4, evaluation of BERT NER models · Programming of a RAG application using LLM chain techniques and prompt engineering, reaching 100+ users · Development of an LLM chatbot interacting with financial data in a Snowflake database using LangChain/LangGraph
11/2022–05/2023	**Software Engineering/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.	**Project management**
10/2023	**QuantCo GAC Scholarship**	
10/2022–10/2023	**Co-Founder of *neuroTUM*** 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.	**Deep Learning, PyTorch**
02/2023	**U-Net for Brain MRI Segmentation** 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.	**Deep Learning, PyTorch**
11/2022	**Siemens Mentoring Programme, Cohort 2022-2023** Participation as a mentee and at the Siemens RIE Hackathon and Siemens RIE Conference in March 2023	

SKILLS & TECHNICAL KNOWLEDGE

Programming Languages: Python, 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 a MUN conference (DSAMUN 2019)