DINH NAM PHAM

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EDUCATION

BSc Computer Science **Technical University Berlin** **Oct 2021 – Aug 2024**

- Relevant Coursework: Scientific Computation, Algorithms & Data Structures, Information Systems and Data Analytics, Software Engineering, Algorithm Theory Introduction to Programming, Stochastic, Database Project

WORK EXPERIENCE

Student Research Assistant **German Research Center for AI (DFKI)** **Nov 2022 – Present**

- Independent research on deep learning-based recognition of mouth actions for sign language
- Training models in PyTorch on GPU cluster and create scripts for web scraping and preprocessing
- Visualization of results and engagement in academic publications

Research Intern **Cambridge CARES** **Aug 2023 – Oct 2023**

- Worked in the World Avatar Project, developed by the University of Cambridge's CoMo Group
- Deployment and bug-fixing of an agent to forecast time series related to a power system
- Exploration, testing and modification of functionalities of the agent to forecast with covariates
- Conduction of a comprehensive literature review about time series forecasting utilizing knowledge graphs

Data Engineer Intern **Mercedes-Benz Tech Innovation** **Aug 2022 – Oct 2022**

- implemented and optimized data platforms using tools such as Python, PySpark, Power BI and Databricks
- developed a function with **PySpark** in Databricks to efficiently calculate availability in vehicle tables including billions of entries and presented highly affected attributes as a dashboard in Power BI

PUBLICATIONS AND PERSONAL PROJECTS

Deep learning-based Gloss-level Classification for Sign Language with Mouth Actions

- Comparative study of the performance of hand shapes and mouth actions separately and combined as input for a CNN-based model for sign language homonyms.
- **Pham, D.N.** et al. „Disambiguating Signs: Deep Learning-based Gloss-level Classification for German Sign Language by Utilizing Mouth Actions". ESANN'23. DOI: 10.14428/esann/2023.ES2023-168

Deep learning model for Lipreading for the German language

- A model implemented in **PyTorch** and **Scikit-learn** to classify videos of lips with a dataset created from scratch by processing 1806 videos into 38k+ instances and cropping the mouth region with **OpenCV**.
- **Pham, D.N.**, Rahne, T. „Entwicklung und Evaluation eines Deep-Learning-Algorithmus für die Worterkennung aus Lippenbewegungen für die deutsche Sprache". HNO 70, 456–465 (2022). DOI: 10.1007/s00106-021-01143-9

Twitter Sentiment Analysis

- An application to extract tweets, classify their sentiment and visualize the results, created with **PyQT**, ScatterText and **Matplotlib**, **NLTK**, **Pandas, Scikit-learn** and Imbalanced-learn

HONOURS AND AWARDS

- **Best Poster Award (2022):** Received the 1st prize at the poster competition at the 24th Annual Conference of the German Society of Audiology for the lip-reading project.
- **Scholarship of the German Academic Scholarship Foundation (2022):** The Studienstiftung des deutschen Volkes**,** Germany's most prestigious scholarship foundation, awards students with outstanding academic potential and personal promise.
- **National Finalist at the German National Contest for Artificial Intelligence (2020):** Reached the national finale as one of the top 5 projects from over 2000 participants with the deep learning-based lip-reading.
- **Award of the German Multimedia Award mb21 age group 16-20 (2019):** Awarded for the project "Artificial Intelligence - Drawing music". Invited presentation at the Federal Ministry of Education and Research in 2022.

SKILLS

- Python, Java, C, C++, C#, SQL
- PyTorch, TensorFlow, Pandas, Scikit-learn, NumPy, OpenCV, MySQL, PySpark, Databricks, Power BI, Git, Linux