Rocky Auer

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EDUCATION

Maastricht University - Department of Advanced Computing Sciences **Maastricht, Netherlands**

Master of Science in Artificial Intelligence   September 2022 - March 2025 (expected)
current grade: 2:1 (GPA:7.5/10.0)

- **relevant coursework**
    - Machine & Deep Learning
    - Natural Language Processing (Information Retrieval & Text Mining, Advanced NLP)
    - Computer Vision
    - Computational Statistics

Johann Wolfgang Goethe University   **Frankfurt am Main, Germany**

Bachelor of Science in Economics and Business Administration   October 2017 - July 2021
final grade: 2:1

- **specialized** in Economics (Game Theory, Macroeconomics, Econometrics)

enrolled in the student exchange with the Chungnam National University in South Korea (2019)

Bachelor of Science in Mathematics (minor: Computer Science)   October 2018 - June 2022

- **relevant coursework:** Calculus / Linear Algebra / Programming
- dropped out to pursue my master's degree

PROFESSIONAL EXPERIENCE / VOLUNTEERING / PROJECTS

DFKI (The German Research Center for Artificial Intelligence)   **Berlin, Germany**

Research Assistant - Information Retrieval Group   since July 2024

- conducting research in the Text2Tech project, specializing in entity extraction and linking from technical reports to Wikidata
- applying and evaluating novel transformer architectures to enhance the accuracy and efficiency of data extraction and integration, providing valuable insights for data-driven decision-making

European Space Agency   **Noordwijk, Netherlands**

Intern - Data Scientist for Market Intelligence   February 2024 - June 2024

- engineered a tool using transformer architectures and graph databases to analyze articles, extract and visualize relationships between entities, targeting insights into the space economy
- performed sentiment analysis on annual conference reports using advanced NLP techniques to assess market sentiments and trends
- developed a chatbot based on a retrieval-augmented-generation system using web scraping, LlamaIndex, Langchain, and SQL databases to analyze Space Economy news, adopted by over 100 users for industry insights

Assenagon Asset Management S.A.   **Munich, Germany**

Intern - Artificial Intelligence in Portfolio Management   July 2023 - September 2023

- developed a POC to integrate advanced topic modeling and sentiment analysis techniques into our market prediction strategies
- integrated ChatGPT-generated outputs into data analysis tasks utilizing the OpenAI infrastructure, while taking the lead in prompt engineering tasks, optimizing NLP pipelines for improved data insights

Alexander Thamm GmbH   **Frankfurt am Main, Germany / Remote**

Visiting Data Scientist   February 2022 - June 2023

- worked on projects involving price forecasting for insurance products using ML and econometrics
- involvement in an in-house research project on political party classification based on computer vision
- engaged in a customer-facing project, advising clients on the integration and application of machine learning models into their business processes

HIGHLIGHTED MACHINE LEARNING / RESEARCH EXPERIENCE

Maastricht University (Research Project)

Detecting Anomalies in High-Frequency Finance Data

- worked in a group of 5 master's students to find anomalies in order-book data
- leveraged generative adversarial models (GANs) to replicate and forecast the data and compare it with actual data to label possible anomalies

Maastricht University (Research Project)

Repeated Games with a Twist: Forced Alternated Actions

- worked in a group of 5 master's students to model forced alternated actions in Game Theory, which is defined as a repeated game where two players compete but are limited in the repetition of strategies and therefore forced to deviate from time to time
- created a Matlab script to simulate this game with optimal play for over ten thousand consecutive rounds to help develop a proof for an analytical solution to the general problem

Goethe University (Bachelor Thesis)

Citizenship by Investment and Large Games

- Developed a game-theoretical framework for large-scale decision-making, identifying equilibria in the immigration patterns of high-net-worth individuals during political crises, with a focus on the 2019-2020 Hong Kong protests

TECHNICAL SKILLS

Microsoft Office (Powerpoint, Excel, PowerBI)	*intermediate*
Python (Scientific-, ML-, NLP-, CV-libraries, Keras)	*intermediate*
Data Visualization (Plotly, Seaborn, Streamlit)	*intermediate*
LaTeX	intermediate
Tensor flow	intermediate
Pytorch	beginner - intermediate
Git	intermediate

LANGUAGES & INTERESTS

Languages: German (native); English (fluent); Russian (basics)

Interests: calisthenics, entrepreneurship, films, beats production, fashion, audiobooks and podcasts