Curriculum vitae

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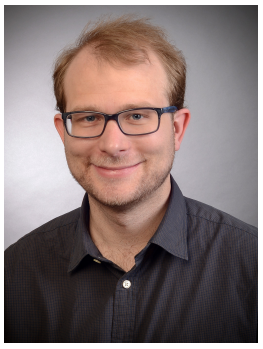

Studies

2018-2024 **Bachelor of Science Business Information Systems (7 Semester)**, *THM Friedberg*

Electives:

- Foundations of Data Science
- Predictive Analytics with Python
- Introduction to Decision and Game theory
- Introduction to Programming Language Julia
- Term paper: Artificial Intelligence in the electricity sector
- 5 Months Full-Time practical training Phase at Fraunhofer IEE in Kassel

2008-2018 **Study**, *Justus-Liebig-University Gießen*

Medicine, Philosophy, (German) Linguistics, Political Science

Bachelor Thesis

Titel *A Deep Reinforcement Learning Environment of the Limit Orderbook Intraday Electricity Market, development and efficient implementation*

Content Development of an interface between data and modelling paradigm on a theoretical level and implementation as a Python package in combination with a MongoDB. Most important requirement, runtime on the HPC cluster was tested experimentally and positive results were analysed

Examiners Professor Nicolas Stein, THM und Dr. Christoph Scholz, Fraunhofer IEE

Jobs

2022-2024 **Practical Phase and working student**, *Fraunhofer IEE*, Kassel, in the group of Dr Christoph Scholz for reinforcement learning for cognitive energy systems

Activities:

- Conception and implementation of a **Python-Pakets for Deep Reinforcement Learning** in the Intraday Market of EPEX for internal (research-)use:
  - self-guided IT project management according to **agile principles**
  - Benchmarking of the runtime during development with ongoing adjustment for the purpose of runtime optimisation
  - Data structure modeling and maintenance of the MongoDB belonging to the package
  - Design, construction and use of the **ETL-Pipelines to MongoDB in Python**
  - Orchestration of experiments based on the package with Ray on the HPC cluster
  - Processing and analysing experimental results
  - **Collaboration on the creation of the resulting paper**
  - Securing resulting version 1.0 of the package: documentation according to pep8 standards with Sphinx and detailed Readme.md as well a familiarisation of other students
- Conception and implementation of Jupyter notebooks for the seminar “Energy Data Scientist - Automated Energy Industry” in coordination with the lecturers

Skills

Python

Python	■■■■■	Pandas	■■■■□
Numpy	■■■■□	sk-learn	■■■■□
Keras	■■■□□	Ray	■■■■□
Jupyter	■■■■□	Data Visualisation	■■■■■
Anaconda	■■■■□	Django	■■□□□

Programming and computer science

R	■■□□□	Julia	■■■□□
Java	■■□□□	LaTeX, .md	■■■■■
SQL	■■■□□	MongoDB	■■■■■
Git	■■■■□	CI/CD	■■■■□
UML	■■■□□	HTML, CSS	■■■□□
Cloud Computing	■■■□□	RESTful APIs	■■■□□
Agiles PM	■■■■□	ETL Prozesse	■■■■■
Command line	■■■□□	HPC/SLURM	■■■□□

Languages

German	Native speaker	English	Advanced

Interests

Social sciences

VWL
political economy
(algorithmic) game theory
climate policy
industrial policy
market- and mechanism design
political science

Computer Science

IT-Project management
(Tiny) Machine Learning
Artificial intelligence
Research Software Engineering
DevOps
Process- and Data modeling
Evolutionary Algorithms
Multi agent systems / simulations

School

2007 **Abitur**, *Evan. Gymnasium Lippstadt*, (Electives: Biology, History)
2004 **Mittlere Reife**, *Städtische Gymnasium Erwitte*

Heuchelheim, 2. August 2024