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data mining · machine learning · artificial intelligence · big data

I am a computer scientist specializing on algorithms for data analysis by training, and a generalist by nature. As a freelance data scientist I help my clients in implementing data-driven innovation.

Focus

Data-driven Innovation – end-to-end

To make data-driven innovation succeed, I work with my clients in all phases of a data science project – including business case discovery, structuring of requirements, selection appropriate algorithms and tech stacks, and finally deployment and evaluation in production.

Full Stack Data Science

Full stack refers to the software engineer who is familiar with both the user-facing side and the backend infrastructure of software. Similarly, the full stack data scientist understands the analytics methods as well as user interaction and infrastructure needed to put it all into practice – a fitting description of my typical role in data science projects.

Pragmatic AI

Artificial Intelligence is currently both overhyped and underrated. We have seen some remarkable progress in AI capabilities, yet many companies struggle to put intelligent systems into everyday practice. Work with me to go beyond the hype and connect business cases to technology – because valuable, pragmatic cases for self-learning systems are within reach for your enterprise.

Education

- 2012-2016 **Karlsruhe Institute of Technology (KIT)**, *PhD candidate at the Institute of Theoretical Informatics/Parallel Computing Group.*
– **Doktor der Naturwissenschaften** (\approx **PhD**) *magna cum laude* awarded in June 2016 for the dissertation *Algorithms and Software for the Analysis of Large Complex Networks*
- 2005-2012 **Karlsruhe Institute of Technology (KIT)**, *computer science studies.*
– subjects: algorithm engineering, software engineering, compiler construction, parallel programming, advanced object-oriented programming, physics, sociology
– **Diplom** (\approx Master's degree)

Career

- 2016 - **Independent Data Scientist.**
– contract roles in Data Science - see section Projects & Roles
- 2015 **Visiting Researcher**, *University of Illinois, Chicago / Clemson University.*
– 2 month research visit funded by a grant from the Karlsruhe House of Young Scientists
- 2012 - 2016 **Researcher**, *at the Institute of Theoretical Informatics/Parallel Computing Group (Prof. Henning Meyerhenke), KIT.*
– research focus: algorithm engineering for the analysis of large complex networks
- 2007 - 2010 **Student Research Assistant**, *at the Institute of Theoretical Informatics, research group Algorithmics I (Prof. Dorothea Wagner), KIT.*
– assistance in algorithmics research and scientific software development

Projects & Roles

- Apr 2020 **AI Consultant/Architect**, *Chami Consulting.*
artificial intelligence **natural language processing**
enabling the adoption of model-based systems engineering with artificial intelligence
- Sep 2018 - **Data Scientist**, *Point 8 (point-8.de).*
Python **machine learning** **time series** **deep learning** **TensorFlow**
advanced machine learning in industrial applications, e.g. time series analytics and anomaly detection
- Apr 2018 - **Data Science Trainer**, *Point 8 for clients including ExperTeach, TDWI, Innogy, Bayerischer Rundfunk.*
Python **Spark** **statistics** **machine learning**
creating and conducting a series of data science training workshops
- Nov 2018 - **Data Scientist**, *denkbare GmbH (denkbare.com) for Fahrzeugwerk KRONE*
Jun 2019 (*www.krone-trailer.com*), *analytics application.*
Python **big data** **dashboards** **analytics application**
ground-up design, implementation and deployment of a data analytics application for insight into customer demand and production process

Dec 2018 - **Software/Algorithm Engineer**, *Point 8 (point-8.de)* for Deutsche Bahn, rail traffic analysis.
Mar 2019

Python time series simulation performance tuning

traffic data analysis, simulation and forecasting

February 2018 - May 2018 **Data Scientist**, *PTV Group (ptvgroup.com)*, machine learning on geodata.

Python Spark big data geodata time series machine learning MLOps

applying machine learning to large geographical datasets - from model engineering to a deployment strategy in a cloud environment.

December 2017 **Data Scientist**, *Point 8 (point-8.de)* for Festool (*festool.com*), IoT data mining.

Python time series IoT

sensor data analysis for IoT applications

October 2017 - April 2018 **Data Scientist**, *Deutsche Telekom*, from data exploration to predictive and explanatory models.

Python machine learning predictive analytics process mining big data
Spark

supporting Deutsche Telekom's think tank dedicated to improving customer service through advanced analytics.

March 2017 - June 2017 **Data Scientist**, *Boehringer Ingelheim*, data-driven measurement of marketing efforts.

Python Adobe Data Workbench big data

developing a prototype for data-driven measurement of global marketing campaign performance across channels

October 2016 **Consultant/Software Architect**, *100 Worte (100worte.de)*, design and implementation of sentiment analysis software.

Python natural language processing

enabling real-time analysis of natural language to derive psychological traits and indicators

2012 - 2016 **Algorithm Engineer/Software Architect**, *Karlsruhe Institute of Technology*, algorithm engineer, software architect, lead developer NetworkKit.

C++ OpenMP Python parallel computing algorithms

During my PhD research I initiated and maintained the open source project NetworkKit ([networkkit.github.io](https://github.com/networkkit))

Speaking

- 2019 **Machine Learning for Time Series Forecasting**, at *data2day conference Ludwigshafen*.
- 2019 **Scaling Data Analysis and Machine Learning with PySpark**, at *buildingIoT conference Cologne*.
- 2017 **PyCon.DE Karlsruhe**, *The Python Ecosystem for Data Science: A Guided Tour*.
- 2017 **PyData Warsaw**, *The Python Ecosystem for Data Science: A Guided Tour*.

For academic conference presentations, see section Conference Publications

Workshops

Technical data science trainings

- 2020 **Deep Learning with TensorFlow**, x2.
- 2020 **Data Analysis and Machine Learning with Python**, x3.
- 2020 **From Scripting to Data Application Engineering**, at *enterPy conference Mannheim*.
- 2020 **Machine Learning for Time Series Forecasting**, at *ML Essentials Heidelberg*.
- 2019 **Advanced Machine Learning**, at *Telekom Technical Security Summit*.
- 2019 **Advanced Machine Learning**.
- 2019 **Machine Learning for Time Series Forecasting**.
- 2019 **Machine Learning with Python**.
- 2019 **(Big) Data Analysis with Python and PySpark**, x8.
- 2018 **Introduction to Data Analysis with Python**.
- 2018 **(Big) Data Analysis with Python and PySpark**.
- 2018 **Machine Learning with PySpark**, x2.

Volunteering

- 2020 - **Co-Organizer**, *PyData Hamburg*, pydata.org, moderation and speaker outreach for bi-monthly meetups .
- 2020 - **Podcast Producer**, *Scientists for Future Podcast*, s4f-podcast.de.
- 2016 - 2017 **Co-Organizer**, *Karlsruhe Machine Learning University Group*.
- 2012 - 2013 **Founding Member**, *Karlsruhe Python User Group*.
- 2012 - **Member**, *Chaos Computer Club e.V.*

Bibliography

academic publications [DBLP](#)

Languages

German first language

English bilingual proficiency

Italian limited working proficiency

Spanish limited working proficiency