

Dr. Stefan Pasch

Data Scientist

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Nationality: German

Date/Place of birth: December 30, 1991 / Frankfurt am Main, Germany



PROFILE

7 years of experience in developing and managing data-driven solutions using Machine Learning (ML). While my early career has been centred around the high-level strategic need and interpretability of data analyses, my recent work also focused on the engineering and implementation aspects of data science. This includes Docker, GPU-acceleration, different cloud or on-premise environments, and project management. Therefore, I can cover the whole data science workflow from the idea through the analysis to the implemented product.

Key Achievements:

- Trained and implemented a state-of-the-art transformer-based language model for automated question answering at a German financial public institution.
- Trained the worldwide first transformer-based language model that estimates a sustainability (ESG) score for firms based on actual ESG-ratings.
- Various research publications on topics such as NLP, corporate strategy, or digitization.

EDUCATION

10/2014 – 09/2020

Graduate School of Economics, Finance, and Management (GSEFM), Frankfurt am Main

PhD & Master of Science in Quantitative Management

- Final PhD Grade: Summa Cum Laude (with highest distinction)

10/2011 – 09/2014

Goethe University, Frankfurt am Main

Bachelor of Science in Economics & Business Administration

- Final Grade: 1.2 (very good) | ECTS Grade: A | Awarded as one of the top graduates

WORKING EXPERIENCE

09/2020 – Today

SVA (German IT Consultancy), Wiesbaden

Data Science Consultant & System Engineer, Department Big Data

- Training and implementation of state-of-the-art NLP solutions, including question-answering, automated search, and text classification
- Developed an NLP-toolkit for Sustainable Finance (ESG) that includes text classification, zero-shot classification, sentiment analysis, and semantic search
- Building up a pipeline for automated web-scraping
- Consulting clients on suitable data science solutions
- Data science workshops and sales pitches

09/2015 – 08/2020

Goethe University, Frankfurt am Main

Research Assistant, Chair of HR Management

- Managing the data infrastructure in research collaborations with firms
- Building up and analyzing large datasets using Python, STATA, and MS Excel
- Co-developed and taught a course on digitization and data-driven analytics in HR

- 01/2018 – 04/2018 **European Bank for Reconstruction and Development (EBRD), London**
Research Intern, Office of the Chief Economist
- Worked with large datasets, such as the Gallup Poll, on international migration
 - Gathered geographical data using the Google Maps API for Python and presenting spatial results in maps using STATA
- 08/2013 – 10/2013 **KfW, Frankfurt am Main**
IT Intern, Business Informatics Department
- Support of project management office, compilation of project overviews, and preparation of call for bids for IT-services

SELECTED CONSULTING PROJECTS

- 09/ 2020 – 11/ 2021 **Implementing an internal ML-based search engine**
Public Institution from the Financial Sector
- Training and implementing of language models for automated searches in documents relevant for regulatory purposes.
 - Pre-training of AI for NLP using transformer-based Deep Learning Methods, which are corresponding to the latest state of research.
 - Fine-tuning of language models through labelled internal documents for picking up the domain specific and complex structure of those documents.
 - Implementation of a training and evaluation pipeline on a GPU accelerated container platform.
 - Model life cycle management by continuously tracking and reporting of the model performance.
- 09/ 2015 – 09/2020 **360°-Feedback System in Banking**
BankM
- Supporting the execution of an innovative 360° evaluation system
 - Collection and analysis of the data over time to consult the bank about the functioning of the evaluation system
- 05/ 2016 – 01/ 2018 **Analysis of Personnel Data**
Large German Franchise Firm
- Managed the data transfer with Nextcloud
 - Analyzed the data with respect to: Effect of mystery-shoppers, characteristics of successful franchisees, employee turnover

PUBLICATIONS

- Pasch, S., & Ehnes, D. (2022). [arXiv preprint arXiv:2202.02268](#) & [Medium-Blogpost](#).
StonkBERT: Can Language Models Predict Medium-Run Stock Price Movements?
- Pasch, S. (2022). [Focus-on-IT](#).
AI for Sustainability: Improve ESG analyses with NLP [in German]
- Ha, S. Y., Pasch, S. (2022). [Medium-Blogpost](#).
AI Design: Testing Vision Transformers on Design Images.
- Pasch, S., & Ehnes, D. (2020). [Academy of Management Proceedings. \(Vol. 2020, No. 1\)](#).
Implementing Corporate Culture Top-Down or Bottom-Up? Cultural Gaps Over Time and Firm Performance.
- Pasch, S. (2020). [SSRN Working Paper. \(No. 3568940\)](#).
Rage Against the Regime? Risk of Job Automation and Political Attitudes in China.
- Ha, S. Y., & Pasch, S. (2019). [SSRN Working Paper. \(No. 3497575\)](#).
Design Thinking and Contingency Theory: Why Some Firms Benefit More from Design Thinking than Others
- Pasch, S. (2018). [IZA Conference Paper](#).
Corporate Culture and Industry-Fit: A Text-Mining Approach.

SKILLS & CERTIFICATES

- IT Tools**
- Advanced Skills: Python, STATA, R, Latex, NLTK, Huggingface, Databricks
 - Good Skills: HTML, Docker, Matlab, TensorFlow, AWS, Azure
- Quantitative Methods**
- Data preparation / Preprocessing
 - Supervised Learning / Unsupervised Learning
 - Model Monitoring / Model-Life-Cycle-Management
 - Natural Language Processing (NLP)
- Certificates**
- Databricks Certified Professional Data Scientist
 - Databricks Developer Essentials
 - AWS Certified Cloud Practitioner
 - Google Project Management Professional Certificate
 - NVIDIA Data Science Foundations
 - NVIDIA Deep Learning Institute: NLP
- Language Skills**
- German: Native
 - English: Fluent
 - Korean: Beginner (6-months beginner course)

HONORS

- Scholarships**
- National Scholarship Program (Deutschlandstipendium)
 - Economic Society Frankfurt
- Awards**
- On Dean's List during B.Sc.
 - Awarded as one of the top B.Sc. graduates
 - Best first-year PhD student of Mgmt. & Marketing track
 - First place in 2017 and 2018 teaching evaluation (TA of awarded course)
 - Eecture Prize (worth 5,000€) at IBM Hackathon

EXTRACURRICULAR ACTIVITIES

Research and Blogging (See Publications)

- In my spare time, I explore the possibilities of AI by applying state-of-the-art ML-tools into other fields like management or finance by writing blogs, publishing research articles, or building small demos

Game In-Risk Out

Application Software (joint with Christopher Grobmann)

- Tool to learn and measure risk preferences for personal investment decisions playfully

Students Meet Refugees

Volunteer, Treasurer, and Co-Director

- Charitable collaboration between Goethe University and AWO to teach German to Eritrean refugees

Hobbies

- Climbing/Bouldering, Football, Economics & Politics, Stock Market & Investing
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Frankfurt am Main, July 10, 2022