Ben F. Maier — CV

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I develop mathematical models of the world and software frameworks to learn from them. Experienced in setting up automated big-data analysis and processing solutions. Excellent technical and inter-personal communication skills. Team player. More than a decade of experience in renowned inter-disciplinary research with a PhD in theoretical physics and a broad interest in mechanistic modelling of interconnected systems. Advised the German government on model-informed mitigation strategies during the COVID-19 pandemic. Developed algorithmic investment strategies at Deutsche Bank.

IT Consultant & Developer

since 2025, *Self-employed*
Development of full-stack solutions for automated big data processing based on methods from statistical and mechanistic modelling as well as artificial intelligence. Specialized in Python incl. data stack, C++, JS and SQL dialects. Well-documented software packages with automated tests. Concise presentation of analysis insights.

Quantitative Strategist

2024, *Group Strategic Analysis, Deutsche Bank, Berlin*
Full-stack development and implementation of algorithmic investment products. Dev work in Python, JS, OracleDB, Matlab.

Postdoc & Deputy PI

2020–2023, *Robert Koch Institute, DTU Copenhagen, Danmarks Statistiks*
In Germany: Research focusing on epidemic spreading processes in human systems, mainly infectious disease modeling and data analysis regarding the COVID-19 pandemic. Supervising students and research projects. Reporting to crisis response panel and German ministry of health. Administrative tasks. Dev work in Python, C++, and JS. Administering web and database servers. In Denmark: Modeling of temporal network dynamics and big-data analyses of nation-scale social systems with machine-learning techniques and applications in infectious-disease modeling. Supervising students and independent research projects. Dev work in Python, C++, and JS.

Data Scientist

2015–2022, *Self-employed, customers incl. Universal Music Germany, Santa Fe Institute*
Consulted and developed custom analysis software for companies to design marketing strategies based on big data. Development mostly in Python and using PostgreSQL, Qubole, AWS.

Full-Stack Developer

2018–2019, *Robert Koch Institute*
In-house consulting and prototype development of a data acquisition and management application for the Center for International Health Protection (backend and frontend) in Django, MySQL, JavaScript. Preparation of geographic location and metadata for scientific use and interactive presentation (MySQL, d3.js).

Technical Skill Set

Scientific	numpy, scipy, polars, pandas, geopandas, pytorch, scikit-learn, Matlab
Development	Python, C++, JavaScript, bash, various SQL dialects, AWS, git, CI, Perforce, Java
OSes	Linux incl. server administration (Ubuntu, Red Hat, CentOS), Mac OSx, Windows
Web	JavaScript (incl. d3.js, Three.js, p5.js), HTML, CSS, django
APIs	Twitter, Spotify, Wikipedia
Office	LaTeX, MS Word, MS Excel, Keynote, Pages
Graphic design	Affinity Designer, Affinity Photo, Autodesk Graphic, Gimp, InkScape
Audio & Music	Ableton Live 11, Maschine 2, Reason 8, Audacity, Foxdot, Sonic Pi

Scientific Record

Publications	Author of 23 articles, citations: 1770, h-index: 10
Talks	Presenter at 27 public and countless internal events
Software	I developed more than 21 open-source libraries
Reviews	I reviewed manuscripts for 12 scientific journals
Press	My work has been featured in the media more than 61 times
PhD Thesis	"Spreading processes in human systems", doi:10.18452/20950.

Education

2014–2019 **PhD in Theoretical Physics** *Humboldt University of Berlin, Robert Koch Institute*, final grade: *summa cum laude* (highest possible grade)

2011–2014 **MSc in Physics** *Humboldt University of Berlin*, final grade: 1.2, thesis: 1.0 (highest possible grade)

2011–2012 **Erasmus exchange program** *Universiteit Utrecht (NL)*, ten-month visit

2008–2011 **BSc in Physics** *Humboldt University of Berlin*, final grade: 1.7, thesis: 1.0 (highest possible grade)

2008 **Abitur (German high school diploma)** *Berlin*, final grade: 1.2, intensive courses: physics, computer science

Fellowships & Awards

2023 Research Environment of the Year (Danish Young Academy)

2019–2023 Add-on Fellow for Interdisciplinary Life Science of the Joachim Herz Stiftung

2014 HU Berlin Research Track scholarship

2011–2014 Fellow of the German National Academic Foundation (Studienstiftung des Deutschen Volkes) including scholarship