

Daniel Heinlein

Computer Scientist, Mathematician, Programmer.

Contact:

✉ contact@danielheinlein.com
🏠 www.danielheinlein.com
🌐 [danielheinlein](https://www.linkedin.com/in/danielheinlein)

I am a German computer scientist, mathematician, and programmer living over five years in Finland. I hold a Ph.D., two M.Sc.s, and a B.Sc., all achieved with top grades. Bridging the gap between theory and practice.

Work Experience

- 2018 – now **Research & Development Specialist** Aalto University (Espoo, Finland)
- Generation, analysis, and pattern recognition of big data.
 - Generated and processed ca. 25 petabytes of data in ca. 30.000 CPU-hours with a heavily optimized and parallelized approach.
 - Wrote a C++ program to generate exhaustively ca. 100.000 functions, having ca. 7.500.000 lines of code, to apply Google Benchmark and discover the fastest.
 - Applied data analysis and machine learning techniques, esp. support vector machines, to optimize problems with Python, Pandas, and Scikit-learn.
 - Investigated possibilities to compute matrix multiplication fast in a cloud such that servers in the cloud learn nothing about the input matrices, even if they collude.
 - Applied metaheuristics, esp. tabu search, in a C++ program augmented with Streaming SIMD Extensions (SSE / AVX).
 - Applied semidefinite programming to obtain state-of-the-art bounds.
- 2013 – now **Web developer** for parts of the University of Bayreuth (Germany) homepage
- Created and maintaining <http://subspacecodes.uni-bayreuth.de/> with Python, Django, HTML, Bootstrap, CSS, Javascript, SQLite, Git, Docker, and Apache.
 - Maintained <https://www.math.uni-bayreuth.de/>.
 - Developed a method to embed literature with PHP, HTML, and CSS, and a method to connect an SQL database with PHP to deliver the homepage contents.
- 2015 – 2018 **Ph.D. researcher**, University of Bayreuth (Germany)
- 2013 – 2018 **Administrator** for parts of the computer infrastructure of the University of Bayreuth (Germany)
- 2012 – 2012 **Software Architect**, intern, at Astrum IT (Erlangen, Germany)

Education

From the Faculty of Mathematics, Physics and Computer Science, University of Bayreuth (Germany):

2015 – 2018 **Ph.D.** (Dr. rer. nat.) magna cum laude
2014 – 2016 **M.Sc. Computer Science** 1.0* (each grade contributing to the average is 1.0*)
2012 – 2014 **M.Sc. Mathematics** 1.2*
2009 – 2012 **B.Sc. Mathematics** 1.0*

*The grades in this system are 1.0 (best) to 4.0 (worst).

Languages

German (native) English (fluent) French (basic) Persian (basic)

Core technologies

C++ 15 years of experience
Python 10 years of experience
JavaScript 2 years of experience
MPI 10 years of experience
SQL 5 years of experience
CPLEX / Gurobi 10 years of experience

More information: www.danielheinlein.com
