
MAXIMILIAN SIEBEL

EDUCATION

12/2022 - TODAY

Ph.D. student at Heidelberg University under the supervision of Prof. Jan Johannes. Part of the cluster of excellence STRUCTURES. Supervision of the exercises classes for the lecture „Statistics 2“ of Prof. Jan Johannes in winter term 2022/23.

10/2020 - 10/2022

Master of Science in Mathematics at Heidelberg University.

Final grade: 1.0 („very good“)

Main focus: Mathematical Statistics and Probability Theory, Applied Analysis, Numerics and Optimization, and Complex Analysis.

Visiting student at the University of Mannheim (2020 and 2021/2022).

Semester abroad at the University of Copenhagen, Denmark (winter term 2021).

Master thesis: „Statistical Inverse Problems: PDE-constrained regression models“ (Mathematical statistics, supervisor: Prof. Jan Johannes, grade: 1.0 - „very good“)

10/2017 - 09/2020

Bachelor of Science in Mathematics (100%) at Heidelberg University.

Final grade: 1.8 („good“).

Field of application: Theoretical physics (I-IV; classical and analytical mechanics, thermodynamics, electrodynamics, and quantum mechanics).

Main focus: Probability theory, mathematical statistics, ordinary and partial differential equations.

Bachelor thesis: "A Bernstein-von Mises Theorem for smooth functionals in semi-parametric models" (Mathematical Bayes statistics, supervisor: Prof. Jan Johannes, grade: 1.0 - „very good“).

09/2009 - 07/2017:

General matriculation standard at Bernstorff-Gymnasium Satrup (High School).

Final grade: 1.1 (top 1%).

Distinctions in mathematics and physics.

EXPERIENCE

09/2021 - 09/2022 - STUDENT RESEARCH ASSISTANT

INSTITUTE FOR APPLIED MATHEMATICS, HEIDELBERG UNIVERSITY

Student Teaching Assistant of the lectures „Statistic I“ and „Probability Theory I“ (winter term 2021/2022 and summer term 2022), i.e. discussion of exercises sheets and questions regarding the lecture. Further working on a research project in the group „Statistics of Inverse Problems“ of Professor Jan Johannes.

03/2021 - 08/2021 - WORKING STUDENT

PRICEWATERHOUSECOOPERS (PWC), FRANKFURT AM MAIN, GERMANY

Software Development in the context of Predictive Analytics, running time optimization by parallelization of the Forecasting Software, Implementation, Testing, and Debugging of Unit and End-to-End Tests, Software Documentation, and Presentation of new methods in internal up-skilling meetings.

Tools: R, Python, SQL, Docker, Jenkins, Git, Azure, Spark, AWS, Databricks, Scrum.

10/2020 - 03/2021 - STUDENT TEACHING ASSISTANT (STATISTICS I)

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE, HEIDELBERG UNIVERSITY, GERMANY

Supervision of exercise classes, correction of exercise sheets, supporting students regarding the lecture. Correction of the final examination.

Topics: Regression and variance analysis, construction of tests in the linear model, conditional tests, introduction into Bayesian Inference, Statistical Analysis of Estimators in parametric Models.

10/2019 - 03/2020 - STUDENT TEACHING ASSISTANT (INTRODUCTION TO PROBABILITY THEORY AND STATISTICS)

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE, HEIDELBERG UNIVERSITY, GERMANY

Supervision of exercise classes, correction of exercise sheets, and support of students regarding the lecture. Correction of the final examination.

Topics: Introduction to the mathematical modeling of statistical problems. Introduction to measure theory, the concept of random variables, distributions, and different concepts of statistical convergences.

08/2019-09/2019 - INTERNSHIP

VIRIDIUM HOLDING AG

**HEIDELBERGER LEBEN SERVICE MANAGEMENT GMBH, HEIDELBERG,
GERMANY**

In-depth insights into the insurance business. Acquired skills: Project management in a team, database-based structures in real-life applications (SQL), financial, actuarial, and legal basics and background knowledge in the finance and insurance industry, model calculations in practice (VBA).

02/2019 - 05/2019 - STUDENT RESEARCH ASSISTANT

**INTERDISCIPLINARY RESEARCH CENTER FOR SCIENTIFIC
COMPUTING,
HEIDELBERG, GERMANY**

Research Group: Forensic Computational Geometry Laboratory

Implementation of functions and methods in C++, project management via GitLab and Qt. Getting to know the basics in the field of 3D computer graphics.

03/2015 - INTERNSHIP

QUEISSER PHARMA GMBH & CO. KG, FLENSBURG, GERMANY

Various insights in the areas of financial accounting, purchasing, export, marketing, EDP, logistics, and laboratory.

Acquired knowledge: Getting to know the software developed by SAP for handling various business processes. Discussion of possibilities and risks through the use of SAP-based software.

09/2013 - INTERNSHIP,

**NORD-OSTSEE SPARKASSE (REGIONAL BANK) - REGIONAL OFFICE,
MITTELANGELN, GERMANY**

Various activities in the area of direct customer service. In particular, the principle of different booking and rebooking procedures was learned.

SKILLS AND INTERESTS

LANGUAGES:

German: Native language.

English: Business fluent.

Latin: Latinum.

Chinese: basics.

Danish: basics.

PROGRAMMING

- Programming Languages:

- C++ (project-specific): Knowledge in the theoretical area through lectures at the University of Heidelberg, and practical experience through work as a student assistant.
- Python (basics): Basics in the field of numerics; computations of interpolations, quadratures, and descent methods.
- R (very good): Knowledge in the field of numerical and statistical computations; neuronal networks and their optimization algorithms, stochastic optimization algorithms, parameter estimation (regression analyses, MLE, EM), Monte Carlo methods (MC, MCMC, Rejection and Importance Sampling), non-parametric density estimation, financial forecasting, package development.
- MATLAB (basics): Numerical methods for stochastic differential equations, Monte Carlo simulations for simulating and estimating Wiener processes and Wiener functionals.

Heidelberg, December 2022