

# Hendrik Fischer

## *Curriculum Vitae*

 [hendrikfischer.org](http://hendrikfischer.org)  
 [hendrikfischer24](https://www.linkedin.com/in/hendrikfischer24)  
 [Hendrik240298](https://github.com/Hendrik240298)



### Work Experience

10/2024–Present **Reserving Actuary**

*HDI Global Specialty SE, Actuarial Valuation - Specialty*

Reserving actuary in the specialty lines of HDI Global Specialty SE

- Reserving of global specialty lines of business (Liability, P&C, PI, Marine, Financial Lines)
- Developed a large-loss threshold optimization to separate attritional and large losses, built an attritional reserving pipeline with `chainladder-python`, and applied frequency-severity models for large-loss projections
- Coordinated the resegmentation of reserving segments and built a new mapping approach that reflects the new business logic
- Developed complementary actuarial analysis tools and automated workflows in Python
- Copilot champion to foster AI within the team; recognized with Spot on Award in 2025

09/2022–02/2023 **Research Visitor**

*École normale supérieure Paris-Saclay, Laboratoire de Mécanique Paris-Saclay*

Research stay in association with the International Research Training Group 2657

10/2021–09/2024 **Doctoral Candidate**

*Leibniz Universität Hannover, Institut für Angewandte Mathematik*

PhD Student in the International Research Training Group 2657

- Development of numerical methods and software for adaptive goal-oriented space-time reduced-order modeling
- 4 peer-reviewed journal publications, 13 conferences/workshops, and 5 open-source research repositories (Python and C++)
- Interdisciplinary collaboration with scientists from applied mathematics, mechanics, and engineering from Germany, France, and the USA

08/2016–09/2021 **Student Assistant**

*Technische Universität Hamburg*

Teaching scientific computing courses and contributed to several research projects related to numerical simulations of ships, aircrafts, and wave energy converters

## Education

05/2024–Present **Actuary (DAV)**  
*Deutsche Aktuarvereinigung (DAV) e.V.*  
Participating in the DAV Education and Training Programme, specializing in Non-Life Insurance (Schadenversicherung)

10/2021–09/2024 **Ph.D. (Dr. rer. nat.) Mathematics**  
*Leibniz Universität Hannover, GPA: 1.0*  
Thesis: Goal-oriented error control for space-time reduced-order modeling using incremental proper orthogonal decomposition

10/2019–09/2021 **Master of Science Industrial Mathematics**  
*Universität Hamburg, GPA: 1.2*  
Thesis: Model Reduction using Incremental Decomposition Techniques to support Unsteady Adjoint-Based Fluid Dynamic Shape Optimization

10/2016–10/2019 **Bachelor of Science Technomathematics**  
*Technische Universität Hamburg, GPA: 2.3*  
Thesis: Analysis of the Interaction of Weakly Nonlinear Water Waves

## Engagement

2025–Present **Open-Source Projects Working Group**  
*Casualty Actuarial Society*  
Contributing and supporting open-source actuarial software development and projects with personal focus on `chainladder-python`

11/2023–06/2024 **Promotion plus+ qualifiziert**  
*Leibniz Universität Hannover*  
Obtaining management competencies and key skills for a career beyond academia

2022–2024 **GAMM Student Chapter**  
*Leibniz Universität Hannover*  
Interdisciplinary exchange of scientists from applied mathematics and mechanics

## Languages

German Native

English Advanced

## Skills

**Actuarial Modeling** Reserving methods, ResQ, Large Loss Modeling, Frequency-Severity Analysis, GLMs, Monte Carlo simulations

**Programming** Python (`pandas`, `numpy`, `scikit-learn`, `chainladder-python`, `dash`, etc.), SQL, AI-assisted development (GitHub Copilot, OpenCode, Claude Code). Basic knowledge in C++, MATLAB, and Fortran

**Scientific Computing** Model Reduction, Numerical Mathematics, Partial Differential Equations, Optimization, HPC, Linux