

Hendrik Fischer

Curriculum Vitae

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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 knowlegde in C++, MATLAB, and Fortran
- Scientific Computing** Model Reduction, Numerical Mathematics, Partial Differential Equations, Optimization, HPC, Linux