

I am a Physics graduate specialized on all things scientific computing, with industry experience in data processing and machine learning. My main research interest is “human learning”: How can we build machines that teach us something about our physical world?

## Relevant Work Experience

- Sep 2017 – **Software development specialist @ DHI GRAS**  
Dec 2018 At DHI GRAS, I built robust data pipelines, powerful statistical tools, and optimized remote sensing workflows.
- Jan 2017 – **Scientific assistant @ Niels Bohr Institute**  
Aug 2017 I developed a full-blown, high-performance ocean model in pure Python. I was responsible for everything from the implementation of the numerics and the simulation framework, to quality assurance and documentation.

## Programming Skills

### ML frameworks

I am familiar with modern machine learning workflows and have good knowledge of scikit-learn, Tensorflow / Keras, PyMC3, and JAX.

### Python

I have both deep and broad experience within the Python ecosystem, especially concerning (but not limited to) **data analysis, machine learning, visualization, and scientific computing**.

I love working with the modern scientific Python stack and am well-versed with NumPy, SciPy, matplotlib, xarray, JAX, Numba, and Pandas.

### Tools

Experience with tools handling version control (git), documentation (Sphinx, Doxygen), build systems (CMake), deployment (Docker), testing (pytest), GUI (Qt), continuous integration (Travis CI / Github Actions), typesetting (L<sup>A</sup>T<sub>E</sub>X).

I am comfortable working in all major operating systems, and am familiar with basic server administration tasks.

## Education

- » PhD in Physical Oceanography @ University of Copenhagen — In my project, I use statistics / machine learning on large amounts of real-world data to quantify how and under which conditions extreme ocean waves (rogue waves) are generated.
- » BSc and MSc in Physics @ Heidelberg University — GPA of 1.3 and 1.2, respectively (“very good”). Exchange year at KTH Stockholm in 2014. Specialization in computational physics.

## Other Skills & Interests

- » Strong mathematical and analytical skills, and an affection for data
- » A knack for Bayesian data analysis: I like to make my assumptions and uncertainties explicit.
- » I am passionate about open-source software development, and am a frequent contributor to various projects on GitHub (github.com/dionhaefner).
- » A special interest in **effective communication** through writing, oral presentations, and data visualization. I take the quality of my publications seriously, and love to present my work.
- » **Languages**: German (native) , English (fully proficient) , Swedish (proficient) , Danish (elementary)