Dion Häfner

SCIENTIFIC PROGRAMMER | PROGRAMMING SCIENTIST

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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 – Dec 2018

Software development specialist @ DHI GRAS

At DHI GRAS, I built robust data pipelines, powerful statistical tools, and optimized remote sensing workflows.

Jan 2017 – Aug 2017

Scientific assistant @ Niels Bohr Institute

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 (LaTeX).

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)