Curriculum Vitae for Johannes Weissmann

Personal information

Address:	Åmotlia 5 1389 Heggedal	E-mail: Phone:	johannes@xal.no +47 488 43 550
Born:	04.08.1984	Nationality:	German

Summary

I am a computational phycisist and experienced software developer. From my background as computational phycisist I am equipped with excellent analytical skills and a solid foundation of numerical computing.

In addition, I am also an easy to work with, pragmatic person and problem solver who is capabale of seeing the greater picture in things. Although I do have my personal preferences, I can quickly integrate into existing teams and choose the appropriate tools for the problem at hand.

Throughout my career, I have worked with a broad variety of tools, ranging from embedded systems to cloud architectures. The last years, I have primarily worked with Python in rapidly developing environments which benefit from a dynamically typed language. However, I am more attracted by challenges which require the performance and control offered by statically typed languages such as C++ or Rust which I used mainly at university and some minor tooling in my recent projects.

Technical skills

Languages	Python (+5 yrs), C++ (1 yr), C (1 yr), Fortran (1 yr), Rust (0.5 yrs), Haskell (0.5 yrs), Go (0.5 yrs), Java (1 yr), HTML/CSS/XML/XSLT
Tools	Docker, Git, SVN, Linux, NoSql, MongoDB, InfluxDB, PostgreSQL, OAuth 2.0, Grafana, Unix Toolchain (Make, CMake, autotools), CI/CD, Jenkins, TDD, RESTful, valgrind

Education

2012 – 2013	Diploma thesis at the Max-Planck-Institute for Plasma Physics running high performance numerical fluid analyses at the SuperMUC.
2007 – 2013	Diploma degree in physics from the Technical Univeristy of Munich with a specialization in computational and plasma physics. One year as exchange student at the NTNU in Trondheim.

Professional experience

01/2018 –	Consultant at Expert Analytics
01/2017 – 01/2018	Scientific Software Engineer at Science [&] Technology AS. Working on algorithms and the backend of Silvisense (silvisense.com) to process satellite data, mainly from Sentinel-2. The backend system is built with Python, with all individual processing steps being encapsulated in docker images.
08/2016 – 01/2017	Senior Engineer at 4Subsea AS. Responsible to develop a prototype for the next generation data processing platform in close cooperation with a pilot client. The proof-of-concept was used to deliver a real-world project while features where added continuously to the live system.
08/2013 – 08/2016	Engineer at 4Subsea AS in the group Integrity Services & Products. Working mainly with sensor systems to monitor subsea equipment. Involved in system design, signal analysis, data processing and field engineering. Successfully installed many systems offshore including prototypes. Responsible for the development and maintenance of the data processing software and the complete development and production toolchain.
10/2010 – 09/2011	Working student at NTNU/IPT Computer Tomopgraphy Lab. Development of image processing software to establish fast and standardised work flows. Responsible for design and manufacturing of sleeves and acoustic transducers for core flooding experiments.
02/2002 – 09/2006	Consultant and Software Developer (Freelancer) at ADESTIS IT-Service GmbH. Web and front-end software development. Freelancer for internal product development, technology scouting and external business consultant.

Languages

English	Fluent
German	Native
Norwegian	Fluent
Spanish	Beginner

Personal skills

Communication	I am a very entrepreneurial and communicative person and are able to grasp the bigger picture behind things very well. In my projects I have documented the ability to be an extraordinary good bridge between development and management and able to communicate on both sides with the appropriate insight.
Firefighting	An ability I am proud to have proven to add to teams, is the capability to stay calm and rational under extreme pressure. I am able to help teams to stay focused to find a solution when things are critical.
Quality	I develop my skills and challenge myself continuously with new methods and tools. I take a strong ownership in code I develop and strive to develop high quality, maintainable and well crafted code.

Extended descriptions of selected projects

Activity	Dagger (core development)
Period	01/2017 – 08/2017
Role	Developer
Staffing	5
Volume	100 %
Description	Part of the core developer team for Science [&] Technology's satellite data processing backend. The backend system was built with python and all processing chains are abstracted as directed acyclic graphs. Each processing node was packed into docker images.
Tools	Python, Docker, Postgres, RESTful, TDD, git

Activity	Silvisense
Period	08/2017 – 12/2017
Role	Developer
Staffing	5
Volume	100 %
Description	Developed a processing chain to automatically detect land-cover changes with satellite images. The core of this work is a neural network to classify the land-cover type from satellite images. Changes are detected by analysing time-series of images. Besides the core algorithm a variety of tooling to facilitate in- and output of data had to be developed.
Tools	Python, C++, Keras, GDAL, shapely, hdf

Activity	Datana Prototype
Period	1/2016 – 12/2016
Role	Developer
Staffing	2
Volume	100 %

Description	Developed an internal prototype to handle the streaming of sensor data from offshore drilling units and their real-time analysis. The prototype was capable of handling both hot (streaming) data, and managing cold (archived) data with the same interface and user experience. A key feature I have designed was the possibility for engineers to submit their custom processing scripts to the backend system to make these results real-time available in the dashboard system targeted towards management.
Tools	Python, Go, Docker, MongoDB, InfluxDB, JWT, OAuth 2.0, Azure, Grafana, RESTful, Jupyter Notebook, git, TDD, agile

Activity	SWIM System
Period	8/2013 – 12/2015
Role	Developer
Staffing	3
Volume	100 %
Description	Developed the data processing pipeline for 4Subsea's subsea monitoring system. The work involved designing of the workflow and architecture, interfacing the hardware, establishing communication to the subsea equipment, backend systems and the signal analysis itself. As part of this work I have migrated a large code basis from Matlab to Python and helped an engineering team to incorporate software development best practices into their workflow. For example source control, git workflow and code reviews.
Tools	Python, Jupyter Notebook, Git, Serial Protocols

Activity	MRI Simulations with HERACLES
Period	3/2012 – 05/2013
Role	Developer/Student
Staffing	1
Volume	100 %
Description	Numerical simulations at the high-performance computing cluster at the Max-Planck-Institute for Plasma Physics in Munich. Ported large code bases in C++ and Fortran to the local cluster. The code was parallelised with both MPI and openMP.
Tools	C++, Fortran, Git