XAL

[expert . analytics]

Curriculum Vitae for Åsmund Ødegård

Personal information

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Born:	23.08.1972	Nationality:	Norwegian

Summary

I am a senior software developer, project leader, and researcher, with 19 years of professional experience. Most of my career prior to founding Expert Analytics AS together with Ola Skavhaug, has been with Simula Research Laboratory, ranked as Norway's best ICT research institution in 2012. Through various positions in that company I have obtained a broad set of technical and management skills, which I since 2013 has used as Managing Director and Senior Consultant in Expert Analytics. My main areas of technical expertise spans from mathematical software development and scripting, to administration of advanced ICT solutions and configuration management. Both through education and practical hands-on experience I have developed strong analytical skills within my fields of expertise.

As manager and leader of several projects with internal and external participants, I have learned the importance of understanding the strengths and skills of the participants in order to deliver on time. Communication within the team is always key to ensure that everyone have ownership in the project and stay motivated. This must always be balanced with a firm leadership.

Technical skills

Frameworks	Google App Engine, Puppet, Numpy, Pandas, SciPy, MPI, BSP, Diffpack, Plone, Knockout, jQuery, RequireJS, Web.py, Turbogears, Bootstrap, Slim, Twig
Languages	Python, C, C++, C#, PHP, Java, Javascript, Bash, Matlab, LaTeX, HTML, Sql, CSS, Scala, Lisp
Tools	Linux, OS X, VirtualBox, Vagrant, MySql, Sqlite, NoSqls, Apache, Nginx, Git, Subversion, CVS, Mercurial, Make, SCons, Autoconf, buildout

Education

2006	Dr. Scient in Scientific Computing, Faculty of Mathematics and Natural Sciences, University of Oslo. Thesis' title "Applications of high level software for parallel solution of Partial Differential Equations."
1995	Cand. Scient in Applied and Industrial Mathematics, Department of Mathematics, University of Oslo

Professional experience

2013 –	Managing Director and Consultant at Expert Analytics
2011 – 2013	Director of External Research Funding at Simula Research Laboratory
2010 – 2011	Director of Administration at Simula Research Laboratory
2008 – 2010	Assistant Director of Administration at Simula Research Laboratory
2005 – 2007	Research Scientist at Simula Research Laboratory
2004 – 2009	IT Manager at Simula Research Laboratory
2001 – 2005	Scientific Programmer at Simula Research Laboratory
2000 – 2001	Scientific Programmer at Department of Informatics, University of Oslo
1996 – 1999	Research Assistant at Department of Informatics, University of Oslo
1996	Summer intern, SINTEF Applied Mathematics
1993 – 1994	Assistant teacher, Department of Mathematics, University of Oslo

Extended descriptions of selected projects

Activity	mCASH development
Role	Senior Python Developer
Staffing	12–15 developers
Description	My responsibilities in this project included integrations of third-party APIs for user-identification with Norwegian BankID, and development of APIs for access to mCASH resources for external integrators, based on OpenID Connect and Oauth protocols. I was also deeply involved in design and implementation of the transactional engine handling the payments; the core of the mCASH system. This engine connects persons, merchants and banks together, and computes transation fees for involved parties in addition to moving correct amounts. The backend system of mCASH is implemented solely in Python. The development at mCASH followed the Scrum agile method.
Tools	Python, Google app engine, webapp2, Jinja2, Javascript, jQuery, HTML, Nose tests, Git, Jira.

Activity	SmartBlikk development
Role	Systems Architect and Senior Developer
Description	SmartBlikk is a business intelligence solution for the SME market. My responsibility was development of an API for the system for import of data from external systems, as well as integrating external APIs for use from SmartBlikk, mainly for importing accounting data. The pilot of SmartBlikk was created by the founder of Intelliview, and I am in charge of designing and implementing the second version of the system with dynamic in-browser reporting capabilities. I am also in charge of establishing a deployment environment for SmartBlikk on the cloud, specifically on Amazon Elastic Beanstalk scaling out with multiple EC2 nodes and using AWS RDS database.
Tools	Php, Mysql, Slim, Twig, Javascript, jQuery, AWS EB, AWS EC2, AWS RDS.

Activity	FrontSystems development
Role	Senior Developer and adviser
Staffing	3 developers
Description	FrontSystems is a Norwegian company developing a web-based POS system. The current system was build on some technologies that are approaching EOL, and my main role was to advise and contribute towards a more modern architecture. This include moving development and deployment to Github and Azure as well as implementing reporting services in POS backend using client-side JS rather than Microsoft reporting services.
Tools	C#, JavaScript, Asp.Net, Knockout, Bootstrap, RequireJS, jQuery, MSSQL, TeamCity, Git, Azure.

Activity	Building linux clusters
Role	Project manager, lead architect and developer
Staffing	2 additional Systems administrators
Description	For the scientific computing group at Ifi, University of Oslo and later at Simula Research Laboratory, I was in charge of building three different compute clusteres for advanced numerical computations. The systems grew from 32 compute cores up to 576, and was configured with core os, multiple networks, schedulers and queue systems. The first clusters where managed with CFengine as provisioning system, while the last one was provisioned using Puppet.
Tools	Debian GNU/Linux, CFengine, Puppet, OpenPBS, MAUI, MPIch, BSP,

Activity	Demographic and financial estimations
Role	Architect and main developer
Staffing	Project leader, developer, front-end designer
Description	For customer we developed a web-based tool for statistical estimation of demographics within a large closed group, and a tool for economical planning of a large scale development. My main contribution was the mathematical analysis of the problem, and development of the necessary logic and algorithms. Further, I also implemented the system in a custom application server. The work was carried out in close collaboration with financial experts and a designer.
Tools	Python, Pandas, Web.py, Sqlite, MS Sql, Excel, HTML, CSS, JavaScript, jQuery

Activity	Establishing technical infrastructure of Simula Research Laboratory
Role	Project leader and main architect
Staffing	Project leader, 4 system administrators, external contractors
Description	For the newly created research institute we designed and developed a full technical infrastructure in the renovated office building at the old airport at Fornebu; office networks, back-end facilities and computer room, telephone systems, printers, servers, etc. Technical requirements, budgetary limitations and practical issues had to be taken into consideration in order to establish a scalable and flexible infrastructure.

Activity	Symphonical
Role	Main developer
Staffing	Project leader and two developers
Description	Symphonical is a web-based collaboration tool. Initially it was conceived as a tool for running agile software development projects based on the metaphor of post-it notes on a virtual wall, a scope that since has been widened. We created the first prototype of the system, in 2005, before it was spun out as a company and developed further by others.
Tools	PHP, MySql

Activity	Simulation of Medical Ultrasound
Role	Researcher and main developer
Staffing	4–5 researchers and developers
Description	A research project where we studied different mathematical models for numerical simulation of medical ultrasound. My main responsibility was implementation of object oriented finite element based simulators for ultrasound propagating in inhomogeneous media. The target application was detection of tumors in tissue.
Tools	C++, Diffpack, MPI, VTK

Activity	PySE
Role	Main developer and researcher
Description	Python Stencil Environment (PySE) is a high level environment for solving partial differential equations using finite difference methods (FDM). The environment provides an abstraction for the stencil concept of FDM, which makes it possible to implement FDM-based simulators in notation very close to the mathematical formulation. The environment is inherently parallell and distributes a problem on the available hardware in an optimal way based on the communication patterns defined by the stencils. PySE was developed as part of my PhD studies and published as open source software.
Tools	Python, Numpy, Scipy, SWIG, C++, MPI

Activity	Python Computing Components (PyCC)
Role	Developer
Description	PyCC is a modern and efficient scripting framework that is used to solve differential equations to study the electrical activity in the human heart. The main parts of PyCC is a high level scripting interface implemented in Python for flexibility and low-level extension modules implemented in C/C++ and Fortran for efficiency. My main role in the project was to provide a flexible build system for PyCC taking into account all the dependencies of the system. The build system was implemented using the SCons framework.
Tools	C/C++, Fortran, Python, Swig, MPI, Subversion, SCons, PETSc, FEniCS, Hypre, BoomerAMG, Diffpack, GNU Compiler Collection and Debugger

Activity	Web site for Simula Research Laboratory
Role	Main developer and designer
Description	In order to facilitates new communication strategies for the company, it was necessary to update the web site for Simula Research Laboratory. New channels for communicating news and ongoing research projects were created, as well as a complete redesign of the company Intranet which at the same time replaced mailing list as the primary form of official internal communication. The process of upgrading the system consisted both of technical work and meetings with all the stakeholders within the organisation in order to develop a system in line with their needs.
Tools	Python, PHP, Javascript, Plone, MySql

Activity	Outsourcing of ICT services
Role	Project coordinator
Description	Simula Research Laboratory decided in 2012 to put a contract for its IT operations out for tender, after running the services with internal resources for a decade. My core responsibility was authoring the specification of the tender and evaluating the offers as well as participate in negotiating the final contract. I was also responsible for handling the communication with all the internal stakeholders. As the change affected the daily work of all employees it was particularly important to have an open and inclusive dialog in the process to ensure a satisfactory result.

Languages

English	Fluent
Norwegian	Mother tongue

Personal skills

Communication	Writing and editing,typesetting & typography,try to learn French
Funding	EU and RCN funding instruments,consortium development,proposal writing
Management	Development and implementation of strategies,guidelines and procedures,lead and encourage staff,personnel follow-up
Technology	Extensive knowledge about system administration; always eager to learn about new frameworks and open source technologies; solution architect and problem solver

Some interests and hobbies

Hard	Bicycle, motorcycle
Soft	Playing clarinet and saxophone, cooking &wine, photography
Tech	Fonts, typesetting with $T_{\!E}\!X$, computers, gadgets, coding