

## Experience

April 2009 – Present	Swiss public broadcasting (SSR/RTS) Department Multimedia R&D	Geneva/Lausanne, Switzerland
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### Team Lead Multimedia Infrastructure Operations

Responsible for data management, operations, and development of a multimedia infrastructure for RTS users and websites for national television and radio.

- Formed technical DevOps team of 5 people in 2009 (developers/administrators) and am technical lead of this team. Team occasional supplemented with 2-4 external consultants.
- Management of level 2 (L2) on call team (service piquet) of 10 people. Planning of L2 support during office hours.
- Guide data integration project of the event driven MediaBus Application (MBA) between a media asset management system (Dalet), a multimedia CMS (Vizrt) and other business applications, for real-time and continuous data exchange.
- Steer and plan administration and development projects of multimedia CMS platform using Agile (SCRUM) based methodology. Plan task prioritization of new development cycles for administration and integration projects.
- Develop suitable metrics and gather statistics for project workload estimates, risk assessments, and platform support.
- Deployment testing of data integration applications between multimedia systems.
- Development of scripts and modules for administration and management of continuous data streams. (Bash, Python, Java, XML/XSD, XPath, MySQL).
- Responsible for buying hardware and upgrading systems. Collaborate with hosting provider on backup solutions, work with other business units on Key Performance Indicators and SLA for hosting provider.
- Prepare project proposals for additional funding for my team.

Mar. 2003 – Mar. 2009 <b>6 years</b>	California Institute of Technology	Pasadena, California Geneva, Switzerland
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### Staff Member, Physics Department (Scientific Software Engineer) / Technical Lead

Constructed, operated and maintained event driven workload and data management tools for physicists and engineers. These tools were deployed on several globally distributed locations and managed simulation jobs for the generation of 100 million Monte Carlo simulation events per month and generating approximately 200 TB per month.

- Technical lead for task life cycle software for distributed Monte Carlo simulation, within the CERN Compact Muon Solenoid (CMS) experiment. Development followed an iterative (1 month) development and release cycle akin to eXtreme Programming.
- Responsible for new software releases (release management) and high level testing.
- Redesigned the core of the distributed task life cycle infrastructure and data model. Developed various components for a task life cycle infrastructure. This work improved performance and increased maintainability of the code base.
- Created applications for operators to handle and manage task requests, giving them a high level view of worldwide task progress.
- Simulated scenarios describing the data flow within the organization. The scenarios defined the potential risks in the global IT infrastructure used by our scientists.
- Application coordinator (until December 2007) for the Ultralight project to transform the traditionally passive (wide area) network to an active managed entity using active monitoring: Net Neutrality versus Quality of Service.
- Mentored and supervised foreign exchange students through grants from the US State Department.
- Participated in writing project proposals for funding agencies, including National Science Foundation and Department of Energy, ranging from \$100k – \$2000k to acquire continuous funding for our group's work.
- Presented my group's findings at conferences and collaboration meetings, and reporting to funding agencies.

Mar. 2002 - May. 2002 <b>3 months</b>	San Diego Supercomputer Center	San Diego, California
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### Visiting Scholar

- Worked on Web Services development and investigated information propagation through multiple layers of Web Services for debugging purposes.

Sep. 1999 - Jan. 2003 CERN Geneva, Switzerland  
3 years 4 months (European Laboratory for Particle Physics)

### Software Technologist

*Implemented C++ based data integration solutions for physicists. Results from this work formed the basis for my Ph.D.*

- Developed integration strategies for data from various heterogeneous databases towards a coherent data model that gave an accurate description of the machine used in a scientific experiment. The model enabled users to perform more accurate simulations and correlation with real data (measurements). This model is still being used and maintained to reflect the current reality.
- Responsible for iterative requirements gathering, prototyping and testing of early data model prototypes.

Nov. 1997 – Aug. 1999 TNO-FEL The Hague, Netherlands  
1 year 10 months (Dutch Institute for Defense Research)

### Software Developer

*Built C++ based simulation models with mathematicians. Results from this work formed the basis for my thesis in Software Technology and Design.*

- Designed and implemented a geographical information system to support a simulation environment for developing strategies, policies and risk assessments for mine sweeping. The system enables users to run more realistic scenarios with higher accuracy.
- Gathered requirements from model builders and included them in the iterative roundtrip engineering process.

## Education

Mar. 2004 Eindhoven University of Technology Eindhoven, Netherlands

### Ph.D. Computer Science (Information Systems and Integration)

- Thesis: XML and Graphs for Modeling, Integration and Interoperability: a CMS Perspective

Sept. 2001 University of the West of England Bristol, Great Britain

### Master of Philosophy in Computer Science (Data Integration)

- Thesis: Generic Data Integration Based on XML within a High Energy Physics Environment

Sept. 1999 Stan Ackermans Institute, School for Technological Design Eindhoven, Netherlands  
Eindhoven University of Technology

### Professional Doctorate in Engineering (Embedded Systems and Information Systems)

- Thesis: Design and Implementation of the Mine Sweeping Strategy Testbed GIS

Aug. 1996 Utrecht University Utrecht, Netherlands

### Master in Applied Mathematics (Numerical and Graph Algorithms)

- Thesis: A Bulk Synchronous Parallel Minimum Degree Algorithm. Using graph algorithms to reduce time of matrix factorization

## Professional

- Program committee member: International Conference on Computational Science, Beijing, China, May 2007; International Conference for High Performance Computing, Networking, Storage and Analysis, Tampa, Florida, Nov. 2006; IEEE International Conference on e-Science and Grid Computing: 2007 in Bangalore, 2006 in Amsterdam, and 2005 in Melbourne.
- Session chair, 8th ICATPP Conf. on Astroparticle, Particle, Space Physics, Detectors and Medical Physics Applications, Como (Italy) September 2003.
- More than 30 publications in magazines and conferences.
- Reviewing papers for journals and magazines.
- Member of XOOTIC (<http://www.xootic.nl>). Dutch Alumni Association of Software Design Professionals.

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**Certifications:**

- ITIL Foundations V3

**Awards:**

- 2008 Corporation for Education Network Initiatives in California (CENIC) innovations award : <http://cenic08.cenic.org/news/FinalCENIC08Awards.pdf>
- 2007 Internet2 IDEA award: <http://www.internet2.edu/idea/2007/>

**Technology Skills:**

Object Oriented Design and Development (through UML), Python/PSP, Linux scripting (e.g. sed/awk/bash), XML/XSD, HTML, Java, web services, Unix/Linux , MySQL, JavaScript, J2EE (Servlets, JSP, JSF) with Eclipse IDE, Oracle (SQL Developer) ,CVS, RPM, Windows, Apache (Web Server, Axis, Ant, TomCat), C/C++. Rational Rose (roundtrip engineering), SQL developer. Experience with agile programming techniques such as extreme programming (XP) and Scrum.

**Other**

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- Languages: Dutch - native, English - fluent, German - proficient, French – conversational
- Enjoy cycling, hiking, skiing, cross country, playing chess.
- Photography (<http://vanlingen.name/web/photos/>)
- Open source projects: <http://code.google.com/p/superpodder/>, <http://code.google.com/p/simple-simeng/>