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SPOKEN LANGUAGES	Swedish, English	
EDUCATION	MSc, Department of Computing Science, Umeå University, 2013	
CERTIFICATIONS	Swedish amateur radio operator, 2015 Sun Certified Java Programmer (SCJP), 2011	
STARTUPS	<p>Umeå Lunar Venture, Umeå, Sweden 2015 – present (part-time) https://www.blogg.umu.se/umea-lunar-venture/ https://www.spacesciencesweden.se/</p> <p>Umeå Lunar Venture (ULV) is a collaboration between the group Space Science Sweden and Umeå Univeristy, to put an electrostatic instrument on the lunar surface. The instrument will hitch a ride to the moon with the German company PTScientists (https://ptscientists.com/). The project also is spinning off a technology company in the field of electrostatics.</p> <p>Roles: analog and digital electronics lead, software development lead. High-impedance measurement, synchronous digital demodulation.</p>	
UMEÅ UNIVERSITY	<p>Department of Physics, Umeå, Sweden 2019 https://www.umu.se/institutionen-for-fysik/ Employment within Umeå Lunar Venture.</p> <p>UMIT Research Lab, Umeå, Sweden 2015 – 2018 https://www.umu.se/umit-forskningslabb/ https://www.fmigo.net/</p> <p>Research in the field of Co-Simulation, how to couple together simulations made using different toolboxes. Prototype work involving the FMI standard (https://fmi-standard.org/), resulting in the tool FMIGo that can be used to kinematically couple different simulation units such that the combination can run in realtime on a computer clusters.</p>	
CLIENTS	<p>Mowida AB, Umeå, Sweden– https://www.mowida.com/ 2019 – 2020 Backend work in Django, CI work with Splinter and Jenkins. Querying Bolagsverket via SOAP.</p> <p>Soundmouse, London, United Kingdom– https://www.soundmouse.com/ 2019 AAF to XML converter.</p>	
EMPLOYMENT	<p>Intinor AB, Umeå, Sweden– http://www.intinor.se/ 2015 Backend work in C++ with xerces-c and cairo.</p> <p>CodeMill AB, Umeå, Sweden– https://www.codemill.se/ 2008 – 2015 Consulting firm in Umeå, Sweden. Many clients and projects, some of which are listed below:</p>	
CODEMILL CLIENTS AND PROJECTS	<p>Vidispine – https://www.vidispine.com 2010 – 2015 A toolbox for building Media Asset Management systems. Includes two major parts, both of which I've been involved with:</p>	

- Audio/video transcoder/remuxer with REST interface (C, C++, main developer and video guru)
- Middleware (Java EE, minor work)

RSA – <http://www.rsabiomedical.se/> **2015**
Work on mdesk, a tool for doing orthopedic preoperative planning and templating. C++.

Umbio – <http://www.umbio.com/> **2013 – 2014**
Serial servo motor control in Java, porting C# code to Java.

BBC – <https://www.bbc.co.uk> **2011 – 2012**
The Digital Media Initiative project via Vidispine. Mostly C.

Cantemo – <http://www.cantemo.com/> **2012**
Work on plugins for Cantemo's Portal (a Django-based web front-end for Vidispine). Sub-clients we've been involved with:

- Meta Media Creative Technologies – <http://www.mmct.com/>
- 10dot1 – <http://www.10dot1.co.uk/>

Dokufant – <http://www.dokufant.se/> **2012**
Video transcoding backend.

Playing for Change – <http://www.playingforchange.com/> **2012**
Backend work in Python (Django). Backendarbete i Python (Django).

TableDrum – <http://www.tabledrum.com/> **2008 – 2009**
An iPhone application which does realtime audio classification to figure out which drum sounds to play based on how the user drums on nearby surfaces. Part of my master's thesis.

HARDWARE AND SOFTWARE SKILLS

Build systems / CI:

- CMake, make, ninja, Jenkins, GitLab CI, docker

Higher-level languages:

- C (C99), C++, Java, Python, bash, SQL, Matlab/Octave

Machine languages:

- x86, 8-bit AVR, 6502

Optimization:

- valgrind, callgrind, perf

Formal verification:

- Frama-C

Parallel computing:

- MPI, OpenMP, pthreads

Version control systems:

- git, svn, hg, bsr

Video editing:

- kdenlive, Final Cut Pro 7, Final Cut Pro X, Avid Media Composer 5

Operating systems:

- Windows, Mac OS X, Debian GNU/Linux (including Ubuntu and similar variants)

Other:

- \LaTeX , LyX, LibreOffice

FREE SOFTWARE PROJECTS

FreeDV/codec2 – <https://freedv.org/> **2017 – present**
Ultra-low bitrate voice codec. Build system and optimization work.

	FFmpeg/Libav – https://ffmpeg.org/	2010 – present
	Notable contributions:	
	<ul style="list-style-type: none"> • FreeDV .c2 muxer/demuxer and codec2 wrapper (maintainer) • LXF demuxer (maintainer) • Lots of work on the MXF demuxer, such as OPAtom support, improved seeking and optimizations • Various fixes and features for the AIFF, WAVE, MOV, GXF and FLIC demuxers • Several formats made streamable 	
	MXFLib – http://freemxf.org/	2010 – 2012
	LibMXF – http://ingex.sourceforge.net/libMXF/	2011 – 2012
OWN PROJECTS	James – https://github.com/Tjoppen/james An XML schema compiler for C++	2010 – 2012
	Pyjames – https://github.com/Tjoppen/pyjames Like James, but outputs Python code instead of C++	2011 – 2012
ELECTRONICS	Familiar subjects:	
	<ul style="list-style-type: none"> • Power electronics • Microcontrollers (PIC, AVR) • Passive and active filters • Baluns, RF impedance matching • Antenna design and simulation (nec2c) • Six-layer PCB design in KiCAD • Creating files for automatic assembly (SMT/pick-and-place) • General EMC 	
OTHER HOBBY PROJECTS	Amateur radio	2015 – present
	I'm involved in the amateur radio scene under the callsign SA2TMS. Interests center around digital voice (FreeDV), low power (QRP) and data links. Currently serving on the board of SK2AT (2018).	
	Umeå Hackerspace – https://www.umeahackerspace.se/	2013 – present
	Active since the middle of 2013, mostly in charge of the electronics lab and teaching people how to diagnose and repair broken electronics. Served as vice chairman in 2014.	
	Demoscene	2010 – present
	Production for PC, Atari 2600 and NES, including two games and several demos, one of which won Revision 2012.	
	Homebrewing	2007 – present
	I brew beer from time to time, which usually ends up quite tasty	
	Battlegrounds 2 – http://www.bgmod.com/	2007 – 2012
	A total conversion mod for Half-Life 2. Mostly coding, a little bit of mapping and animating.	