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SPOKEN LANGUAGES	Swedish, English	
EDUCATION	MSc, Department of Computing Science, Umeå University, 2013	
CERTIFICATIONS	Sun Certified Java Programmer (SCJP), 2011	
STARTUPS	Space Science Sweden , Umeå, Sweden https://www.spacesciencesweden.se/ https://www.blogg.umu.se/umea-lunar-venture/ A project in collaboration with Umeå Univeristy to put an electrostatic fieldmill on the lunar surface, hitching a ride to the moon with the German company PTScientists (https://ptscientists.com/). The project is spinning off a technology startup in the field of electrostatics. Roles: analog and digital electronics lead, software development lead. High-impedance measurement, synchronous digital demodulation.	2015 – present
PROFESSIONAL EXPERIENCE	UMIT Research Lab , Umeå, Sweden http://www.org.umu.se/umit/ https://mimmi.math.umu.se/cosimulation/fmigo 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 realtime. Intinor AB , Umeå, Sweden– http://www.intinor.se/ Backend work in C++ with xerces-c and cairo.	2015 – 2018
	CodeMill AB , Umeå, Sweden– https://www.codemill.se/ Consulting firm in Umeå, Sweden. Many clients and projects, some of which are listed below:	2008 – 2015
CODEMILL CLIENTS	Vidispine – https://www.vidispine.com A toolbox for building Media Asset Management systems. Includes two major parts, both of which I've been involved with: <ul style="list-style-type: none"> • Audio/video transcoder/remuxer with REST interface (C, C++, main developer and video guru) • Middleware (Java EE, minor work) RSA – http://www.rsabiomedical.se/ Work on mdesk, a tool for doing orthopedic preoperative planning and templating. C++.	2010 – 2015
	Umbio – http://www.umbio.com/ Serial servo motor control in Java, porting C# code to Java.	2013 – 2014
	BBC – https://www.bbc.co.uk The Digital Media Initiative project via Vidispine. Mostly C.	2011 – 2012

	<p>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:</p> <ul style="list-style-type: none"> • Meta Media Creative Technologies – http://www.mmct.com/ • 10dot1 – http://www.10dot1.co.uk/
	<p>Dokufant – http://www.dokufant.se/ 2012 Video transcoding backend.</p>
	<p>Playing for Change – http://www.playingforchange.com/ 2012 Backend work in Python (Django). Backendarbete i Python (Django).</p>
	<p>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.</p>
HARDWARE AND SOFTWARE SKILLS	<p>Build systems / CI:</p> <ul style="list-style-type: none"> • CMake, make, ninja, Jenkins, GitLab CI, docker <p>Higher-level languages:</p> <ul style="list-style-type: none"> • C (C99), C++, Java, Python, bash, SQL, Matlab/Octave <p>Machine languages:</p> <ul style="list-style-type: none"> • x86, 8-bit AVR, 6502 <p>Optimization:</p> <ul style="list-style-type: none"> • valgrind, callgrind, perf <p>Parallel computing:</p> <ul style="list-style-type: none"> • MPI, OpenMP, pthreads <p>Version control systems:</p> <ul style="list-style-type: none"> • git, svn, hg, bzt <p>Video editing:</p> <ul style="list-style-type: none"> • kdenlive, Final Cut Pro 7, Final Cut Pro X, Avid Media Composer 5 <p>Operating systems:</p> <ul style="list-style-type: none"> • Windows, Mac OS X, Debian GNU/Linux (including Ubuntu and similar variants) <p>Other:</p> <ul style="list-style-type: none"> • \LaTeX, LyX, LibreOffice
FREE SOFTWARE PROJECTS	<p>FreeDV/codec2 – https://freedv.org/ 2017 – present Ultra-low bitrate voice codec. Build system and optimization work.</p> <p>FFmpeg/Libav – https://ffmpeg.org/ 2010 – present Notable contributions:</p> <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 <p>MXFLib – http://freemxf.org/ 2010 – 2012</p> <p>LibMXF – http://ingex.sourceforge.net/libMXF/ 2011 – 2012</p>
OWN PROJECTS	<p>James – https://github.com/Tjoppen/james 2010 – 2012 An XML schema compiler for C++</p>

Pyjames – <https://github.com/Tjoppen/pyjames>
Like James, but outputs Python code instead of C++

2011 – 2012

ELECTRONICS

Familiar subjects:

- Power electronics
- Microcontrollers (PIC, AVR)
- Passive and active filters
- Baluns, RF impedance transformers
- Antenna design and simulation (nec2c)
- Six-layer PCB design in KiCAD
- SMT, reflow soldering
- 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 ended 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.