Oskar Enoksson

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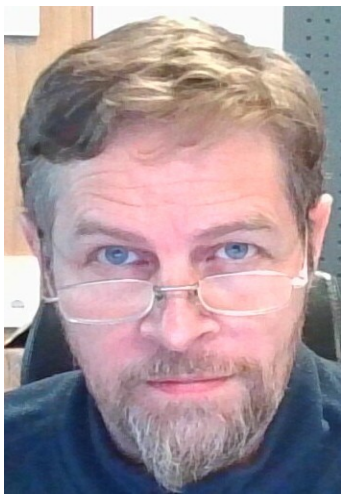

Work experience

Freelance development **2023-07 -**
Developing a ARM based flight controller with AI features. (Rockchip RK3588 Arm, Tensorflow, Yocto, U-boot, RTLinux, Video4Linux, MIPI/CSI)

Dinbox **2022-07 - 2023-06**
2022- Embedded software responsible for a range or products, including Yocto Linux and bare metal custom boards. Various ARM processors. (ARM, NFC, TPM, devicetree, Yocto, C++, C, Gitlab, Python).

Bombardier/Alstom **2018-03 - 2022-07**
2020- Linux- and web-app architect for an embedded webserver application. Flask backend, Bootstrap frontend. Gitlab CI. Created a custom Yocto Linux for the Texas Instruments ARM SOC. Various devops tasks. (Gitlab, CI/CT/CD pipelines, Python, Flask, Javascript, VirtualBox, Docker, Hyper-V, Yocto Linux, Cryptography).
2018-2019 Developed a new ARM-based SIL4 embedded product based on Kalman filter for navigation. Responsible for numerical/statistical methods design and static code analysis. (C, Eclipse, Synergy, LDRA, Python, ARM, Windows)

Scania AB **Södertälje — 2012 - 2018**
2016-2018 Worked with embedded software development and gas flow models for the engine control unit. FreeScale-based target (C, gcc, Jira, Perforce, Eclipse, Simulink, Matlab).
2015-2016 Worked with applied multiphysics simulations and shape optimization methods for truck and bus R&D. Developed a new toolchain for gradient-based aerodynamic shape optimization of ducts using Python and Java. (Linux, Ansa, Catiav5, StarCCM+, Java, Python, Numerical methods, CFD).
2014 Responsible for design and deploy of a Hadoop cluster for evaluation at Scania. (RHEL, Hadoop, HDFS, Hortonworks).
2012-2014 Worked with development and maintenance of Scania's Linux clusters, servers and workstations. (RHEL RedHat Satellite, LDAP, Kerberos, XFS, Gluster, Isilon)

Skills

Embedded Linux, Yocto, Nix, Uboot, Devicetrees, Linux servers, KVM, Virtualization, Docker, VPN, SSL

Mathematical models, Tensorflow, Sensor Fusion, Scientific computing, Algorithms, Project lead, Purchasing.

C, C++, Python, GNU toolchain, Git, Gitlab, Svn, Perforce, Flask, Javascript.

ARM brands: NXP, ST, Rockchip. TI

Aircraft, Automotive, Railway, Combustion engines, CatiaV5, SolidWorks, CFD, StarCCM+, Icem, Edge, Ansa, Electronic design.

Languages

Swedish (native)
English (fluent)
French (basic)
Bahasa Indonesia (some)

Hobby

Car mechanics, SBC projects, Drones, Music, Hiking, Scuba diving, Stockholm Makerspace.

FOI **Stockholm — 2004 - 2012**
Employed as Researcher at the aircraft technology department at FOI (Swedish Defence Research Agency) in Kista.
2009-2012 Took part in applied aircraft technology and HPC research. Represented FOI in some international collaborations. (OpenFoam, Edge, IcemCFD.) Manager of FOI's Linux cluster and storage facility in Kista. Project leading, budget, design, purchase, deployment, maintenance and user-support. (Infiniband, OpenMPI, CentOS, NFS, networking, LDAP, Kerberos, GridEngine, Rocks.)
2004-2008 Participated in developing the the CFD solver "Edge", a F95 solver for supercomputers and workstations. Introduced Subversion as version/revision control tool. (Fortran95, MPI, Python, Shellscript, Subversion, GNU make.)

SMHI **Norrköping — 2004**
Worked 4 months at SMHI with development and maintenance of a oceanographic Fortran code Hiromb.Various scripting work in Perl and Korn-Shell. Platforms: Linux and SGI Irix.

Freelance development **Linköping — 2003**
Worked 6 months with prototype development. Set up a workshop for metal machinery and electronics prototyping. Developed a MSP430 based measure/control computer.

Sectra AB **Linköping — 2000 - 2003**
As a software developer I worked with implementation of aircraft navigation equipment as invented by Håkan Lans. Development platform: Windows. Target was an in-house platform. (C, C++, Windows, ARM, DO178B).

Education

Computer/Electrotechnology **Norrköping – 1989**
Studied one year at a university engineer program

Military service **1990**
15 months as a PB navy telegraphist.

MSc Physics/Electrotech **Linköping — 1991 – 1996**
Emphasis on math, physics and computer architecture. Employed 25% at the math department from year 2. Specialized in applied mathematics. The thesis work at SAAB Aerotech improved an in-house parallel Fortran CFD solver "MultNAS" with new boundary conditions and discretization schemes.

Tec Lic Mathematics **Linköping — 1997 - 1999**
Developed new numerical methods and wrote a new parallelized CFD-solver/Adjoint solver in C++, including GUI in GTK++ and OpenGL, which was used for aircraft shape optimization at SAAB for some years. Member of NGSSC and NTM. Took PhD courses in Scientific Computing at Chalmers, LTH, UMU, KTH, UU and LiTH.

References

On request

Selected hobby projects

Contributed to the open-source BIOS-project "Coreboot".
Wrote and published a package for efficient, arbitrary size Galois arithmetic https://pypi.org/project/gint/