

# Curriculum Vitae

Veijo Hunnako, M.Sc. Electronics & Software

30th of August 2023

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## Summary

I'm an M.Sc. Engineer in Electronics and have mostly been consulting within R&D in the vehicle industry since graduation 2006 from **Chalmers**. I have also covered many areas such as Hardware design, Embedded systems, FPGA programming, Bootloader applications, Graphical design and electrical harness design. The roles has also had many international meetings and given a deep knowledge of vehicle architecture and project-management, test management and electronics design.

The story of the "**Helge the robot**", a home project to design my own smart **mobile** baby monitor. The heart was a **Raspberry Pi 2** rev C with a **Pi Cam** using an **Arduino** card to maneuver the robot. The **Python** interface used **i2c** to control the movements. The project was more of a **software project** then building cool robot features and looks, so I just glued the wheels with integrated engines on an old ice cream box and the controller cards just striped on the inside with the Camera rised on a straw. Final touch was a **webb interface** of the to present Helges **videostream** and provide control buttons to move the robot.

I've just finished a project assignment at **Mitsubishi Logisnext Europe AB (MLEAB)** and I am currently looking for new challenges. I'm employed at my own company **Hunnako Konsult AB** and I'm firstly looking for a consultant assignment. Areas of main interest, Electric vehicles, Climate, Test management, **Embedded systems** and fieldwork in general.

During the last four years I have been working as a system designer at **MLEAB**, involved in the implementation of a new **Security EN1175** platform for lift trucks. My role was leading the development of a new aftermarket tool for laptops, used by service technicians, production personnel and also by R&D for verification and test-configurations. The role included daily visits to the factory, fault tracing in production, security checks, diagnostics, software updates, demo-runs, investigations of tool-design, etc. Aftermarket product changes and designing the updates of new features in the electrical harnesses was done in an **electric CAD** system.

Before this I was working as a Component Owner at **CEVT** for the Electronic A/C Compressor for electric/hybrid cars within Geely and Volvo. This role is about getting the suppliers to fulfill all hardware requirements, EMC, environmental, quality and pricing. Also helping test dept with **CAN-tools** to control the compressor in **test-rigs**.

Just before this I was assigned at Volvo to help Emerald Automotive to use the Volvo hybrid battery, **BECM**, for **London Taxi Corp**. These roles have been very challenging with plenty of international contacts and a great responsibility for holding together the team's deliveries and keeping all parties satisfied, or at least informed.

Recently I was at **Volvo 3P** developing an IT-system for brake verification close together with end-users and hardware suppliers. The final product was a fully scalable test rig that could run on **computers, tablets or phones**. A lot of field support for in-vehicle installations, fault tracing and analysis of test data was also covered for the Testing Technology dept.

Early in my career I also did some low-level C code hacking for **embedded** systems using a **16-bit processor** for **Volvo Technology**. Setting up the low layers with bus interfaces and buffer management for vehicle communication for the diagnostic bus. At **SAAB** Security and Defense Solutions he did some user interfaces for air traffic controllers.

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## Interests

Family, cycling, motorbikes, running, gym

## Availability

After vacations period 2023, that's now

## Family

Wife, four kids and a cat

## Work experience [overview]

- 2019-2023**     **Hunnako konsult AB**, Electronics & Design, Ale
- **MLEAB**, System designer, production support and aftermarket
- 2015-2019**     **HRM AB (now EDAG)**, Electronics & Software Dept., Gothenburg
- **CEVT**, Hybrid climate engineering, component owner AC Compressor
  - **VCC**, Hybrid battery management for London Taxi Corp, BECM in SPA
- 2011-2015**     **Combitech AB**, SW and Electronics, Gothenburg
- **Volvo GTT**, System developer, Brake verification test developer
  - **SAAB Defense Solutions**, SW dev, Airport traffic guide systems GUI
- 2006-2011**     **Tricab AB (now DevPort)**, SW & Electronics, Gothenburg
- **Volvo 3P**, Test Engineer, Remote logging of trucks
  - **VCC**, Visibility and rain sensor management, RSM, CEM
  - **Volvo Technology**, SW Embedded, porting driver, bootloader, SWDL
  - **ARCAM**, GUI/HMI designer, rapid manufacturing
- 2002-2003**     **VCC, Thesis**, PCB design, MOST 50Mb/s optical interface for oscilloscope
- 2009-2010**     **Ritz**, Door guard, Gothenburg
- 2004-2006**     **Dagab färskvaror**, Warehouse working, Gothenburg
- 2001-2005**     **Kajskjul8**, Security and cloakroom, Gothenburg

## Education

- 2006**     **M.Sc. Electrotechnology**, Fiber optics and lasers, Chalmers Gothenburg
- 2003**     **Volvo Car Corporation**, Thesis work, title: "Characterization of MOST..."
- 1994**     **Coll Grad Machine technology and production**, Sunnerboskolan Ljungby

## Work educations @ Combitech

- 2014**     Embedded Linux
- 2014**     Practical Project Steering, PPS by Tieto
- 2013**     Android developer
- 2012**     Design patterns
- 2012**     .NET developer
- 2011**     Presentation training

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## Commission of trust

**2014-2017** Secretary of **Brf Framtiden** in Surte Ale

**2009-2011** Chairman of **Brf Lantmätaregatan** in Gothenburg

## Language skills

Swedish and Finnish by birth. English fluently and some German.

## Computer skills

Languages: Ruby, Coffee Script, **Python**, **C#**, **Embedded C**, **C++**, XML, HTML, Java SE

Platforms: Windows, **Unix**, **Raspberry Pi**, **Arduino**, Android

Domains: Git, Tortoise SVN, COM, .NET, WPF, Visual Studio, Eclipse, **MATLAB**, Teamcenter, SystemWeaver, Elektra, **Rapid prototyping**, **AutoCAD Electric**, **PCB design**,

Web: Node.js, **Bootstrap**, Backbone, Sinatra, Apache, Moustache

Interfaces: J1587, LIN, **CAN**, **MOST**, **i2c**

Embedded: **RTOS**, watchdog, buffers, SWDL, **bootloader**, **MCU configuration**

PC systems: CMD, **TCP/IP**, network management, remote control

Automotive: TEA2+, SPA, CMA, Geely, CEVT, VCC, V3P (VGTT), Lift-trucks

## Other qualifications

**2014-** Gruppchef på Älvsborgs 1:a insatskompani, **National Guard (Hemvärnet)**

**1998-** 10+ Gothenburg **half marathon**

**2012** Completed a **Swedish classic** (skiing, cycling, swimming and running )

**2003** **Road racing** with Honda CBR 600 -95

**1996** Driving **license AB**

## References

Henrik Fellbom, team leader at CEVT Hybrid climate. Tel:+46 76-553 61 33

Jon Rosenqvist, team leader at Mitsubishi Logisnext Europe AB. Tel: +46 70-420 48 20

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## Work experience [details]

- 2022 Jan – 2023 Jun **Electrical design, aftermarket support, Mitsubishi Logisnext**  
System designer at MLEAB, supporting aftermarket product changes and designing the updates of new features in the electrical harnesses in an electric CAD system. Setting up new prototype vehicles to test installation of new features and then support the industrialization with timing, training of production personnel, guide purchasing and then hand over from R&D. Also almost daily fault tracing and support to manufacturing with fault tracing and quality issues.  
**Tools:** CANOpen, SWDL, Diagnostics, AutoCAD
- 2021 Apr – 2022 Jan **Parental leave**  
9 months at home
- 2019 Oct – 2021 Mar **Electrical design, aftermarket tools, Mitsubishi Logisnext**  
Electrical engineer at MLEAB, involved in the implementation of a new EN1175 platform for lift trucks. Main focus was development of a new aftermarket tool for laptops, used by service technicians, in production and also by R&D for verification and test-configurations. The role included daily visits to the factory, fault tracing in production, security checks, diagnostics, software updates, demo-runs, investigations of tool-design, etc.  
**Tools:** CANOpen, SWDL, Diagnostics, AutoCAD
- 2018 Jul – 2019 Sep **Parental leave**  
14 months at home
- 2015 Dec – 2018 Jul **Hybrid climate engineering, component owner, CEVT**  
Coordinator at CEVT for the hybrid systems platforms solutions using the Electronic AC Compressor within the different Geely/VCC projects. The role has been very challenging with plenty of international contacts and a great responsibility for holding together the team's deliveries and keeping all parties satisfied, or at least informed.  
**Tools:** Electra, KDP, Teamcenter, System Weaver
- 2015 Feb – 2015 Dec **Hybrid battery management for London Taxi Corp, VCC**  
Coordinator at Volvo Cars for the latest hybrid battery for technology platform transfer within the Geely Corporation. This role has been very challenging with daily international contacts in many time zones and responsibility for holding together the battery team's deliveries and planning for meeting the milestones in the project.  
**Tools:** Electra, KDP, Teamcenter

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2013 - 2015

## **System Developer, Volvo GTT**

System developer for an IT-system for brake verification close together with end-users and hardware suppliers. The final product was a fully scalable test rig which could run on computers, tablets or phones. A lot of field support for in-vehicle installations, fault tracing and analysis of test data was also covered for the Testing Technology dept.

**Tools:** Ruby, JavaScript, .NET

2011 - 2013

## **SW developer, SAAB Defense Solutions**

SW developer for Airport traffic guide systems used at airports, both civilian and military. The product was developed in a fully agile team using the Scrum methodology. The final adaption was made on site with, test and verification on the airport on late nights when traffic intensity is low.

**Tools:** C#.NET, Unix, Agile

2012

## **Parental Leave**

Seven months at home

2009 – 2011

## **Test Engineer, Volvo 3P**

Test Engineer, Remote logging of trucks, installation of test systems on customer trucks used for collecting test data. Remote world-wide data management over GSM modem, but sometimes posting memory cards was the best solution for example deep mine-trucks and Russia.

**Tools:** J1587, LIN, CAN, TEA2+

2008 – 2009

## **System-, Function- and component owner, VCC**

Coordinator for rain sensor and Visibility, that's wipers, defrosters, washing and mirrors. In this mission the sensor supplier was discontinued, and a selection of a new supplier was made. This role was very challenging with daily international contacts and responsibility for holding together the team's deliveries and planning for meeting the milestones for the project.

**Tools:** SPA, CMA, Eclipse, Function Developer

2007 – 2008

## **Embedded software development, Volvo Technology**

Embedded software development RTOS in C-code, porting a driver for a new 16-bit processor, implementing a bootloader for software download (SWDL). The software was the Hardware Architecture layer (HAL) for the Climate Control Module (CCM) and covered setting up the CAN bus interface at full detail with, UART, buffers and diagnose.

**Tools:** J1587, LIN, CAN, Test Developer

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2006 – 2007

## **Graphical designer, ARCAM**

GUI/HMI designer with MPF, C#, .NET for their rapid manufacturing machine. Graphical designer of the layer between the user and the machine, covering walkthroughs for calibration routines with direct machine control.

**Tools:** .NET, WPF, Visual Studio, SW Developer, HM-Interfaces

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