

# Bahman Hellysaz | CV

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## SUMMARY

I am an electronic engineer with many years of experience from designing integrated circuits (ASIC/FPGA). I have worked with analogue and digital hardware/software and embedded systems, as well as testing and verification. I am an analytical and ambitious person with a great technical interest.

## PROFESSIONAL EXPERIENCE

### SEP 2015 – DEC 2016 VHDL-designer / ABB

My work was to develop an integrated circuit (FPGA) in an interface circuit board. I designed and modified a Cyclone family IV FPGA according to specifications based on thousands of existing VHDL files. In addition, I designed a dual port memory within the FPGA. Problem solving, code modification, simulation, troubleshooting, time analysis, testing, verification, validation and documentation were all part of my work.

The FPGA consisted of 23 sub blocks, with different features, linked together in a component. I used a test bench based on the system's behavior for simulation in Modelsim environment.

Tools:

Quartus II, Modelsim, SignalTap, TimeQuest Timing Analyzer, Logic Analyzer, Oscilloscope, Signal analyzer and various lab instruments.

### APR 2006 - AUG 2015 Consult/Proffice

Several different assignments at different companies including Arla, SJ, FMV, the Police and the Swedish Transport Administration. Some of my assignments:

- Dynamic module programming for synchronizing price lists with a database.
- Coordinated the launch of a new rail traffic planning system.
- Automation of employment and contract management.
- Collection, qualification and visualization of road data for digital maps.

Tools:

ArcGis, SAP, Visual Basic, Access

### FEB 2000 - MAR 2004 FPGA-designer (VHDL)/Ericsson

Had several assignments such as

- VHDL/RTL simulation of an ASIC (Digital Intermediate Frequency) circuit.
- Interface block design in FPGA, XILINX in a multi carrier radio.
- Digital pre-distortion for MCPA (Multi Carrier Power Antenna).
- Design of control blocks for digital construction of an FPGA (Xilinx 2000).
- HW verification of a circuit board in GSM radio base station 2308.
- Design and verification of digital signal processing - baseband features in Ericsson's 3G base stations.
- Integration and verification (I&V) of a subsystem including both FPGA / ASIC and SW design.
- Construction of test cases, test instrumentation, various test tools, test results, presentation and documentation.

Tools:

Xilinx ISE, Modelsim, Matlab

## SKILLS PROFILE

### Electronic Engineer

#### COMPETENS

- System Design for Embedded Systems
- VHDL
- FPGA-programming
- Test and Simulation
- Verification
- GIS

#### PERSONALITY

- Disciplined
- Organized
- Enjoy working in groups
- Experienced
- Influential
- Goal-oriented
- Creative
- Motivative

#### IT-COMPETENS (EXEMPLES)

##### Expert

- Quartus II
- NIOS II
- Qsys
- ModelSim
- VHDL
- Xilinx ISE
- ArcGIS

##### Other knowledge

- WordPress
- Matlab
- C-programmering
- SAP
- Visual Basic

#### LANGUAGE SKILLS

Swedish:

Fluent in speech and writing

English:

Very Good in written and good in spoken

Persian : Mother tongue

**JAN 1998 - MARS 1999    Project manager/Dalarna University, Borlänge**

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The project consisted of manufacturing an 8-bit microprocessor based on a given design specification. The programming language was VHDL. The code realizes the design in a programmable grid matrix FPGA, type Xilinx XC4006. This is fitted with an 84-pin PLCC enclosure. The number of instructions that performed in the processor is 32. Current optimization allows a system clock with a frequency of 15.9 MHz. The prototype processor was tested to demonstrate that the design works correctly and all of the 32 instructions can handle external disturbances and external stimuli as a breakup request.

Tools:

Xilinx ISE, Modelsim, Matlab

**MARCH 1999 - JAN 2000    C-programmer/ABB**

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The power from an AC network is converted to DC in a converter station, is transmitted to another location, where it is re-converted to AC in a second converter station. The control system for this is designed in a graphical programming language (HiDraw) and is simulated in EMTDC. HiDraw, uses Fortran, while the simulator control system uses C or Assembler. The goal was to design definition files in C from HiDraw and implement, test and verify them. The project was successfully completed as planned.

Tools:

HiDraw (ABB:s grafiska program), EMTDC (Simulator) och Matlab

**JAN 1979 - NOV 1990    Self-employed**

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**I started** a new company that designed, developed and manufactured electrical radiator and electric control **cabinets**. The company expanded to over 100 **employees** in **just** three years.

**EDUCATION – Basic and additional training**

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2015-2016	<b>HW/SW System design for Embedded system</b> , TEIS, AGSTU, Västerås
2005-2006	<b>GIS-education</b> 20p, Ocellus AB
1996-1999	<b>Bachelor</b> , Electronic 120p, Dalarna University
1992-1996	<b>Science</b> , Secondary completion, Komvux
1976-1978	<b>Master of Science in Electrical Engineering</b> 40p, Illinois University, Chicago USA

**EDUCATION – COURSES**

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2015	<b>Advanced VHDL-design</b> (Effektiv VHDL-design, Pipeline, etc.)
2014	<b>Verilog + SystemVerilog, Verifiering/simulering</b>
2012-2013	<b>Entrepreneur the idea and business development program</b> ProLab
2002	<b>Xilinx FPGA Application</b> , Verification/testability + effective synthesis mot FPGA/ASIC
2001	<b>Channel coding, Frequency economy</b> 2p, Ericsson Radioskola
2001	<b>Mobile propagation channel</b> , Analog modulation 2p, Ericsson Radioskola
1998	<b>Electrical installation – General Admission</b> 5p, Dalarna University, Borlänge
1997	<b>Quality</b> 5p, Dalarna University, Borlänge

**ACCOMPLISHMENTS**

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**Lab environment and tools manager**, Ericsson.

**Deputy director**, condominium association of houses

**Board member** Iranian association in Borlänge.

**OTHER INFORMATION**

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Driving License

**Citizenship**

Swedish

**Born**

1957

**CREDENTIALS**

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To be provided on request.