



BEng. Jerry J.J. Jacobs

(EMBEDDED) SOFTWARE ENGINEER

Piet Heinlaan 47 - 5694 CA Son en Breugel - Netherlands

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“Never stop questioning the why, even if things just-work” - Jerry Jacobs

Summary

(Embedded) Software Engineer with 10+ years experience of developing C/C++/Python/Golang firmware and software. Does know how to pick up a soldering iron at the correct side, using a logic analyser and oscilloscope to find a firmware, software or hardware issue. The seed of interest in technology was sown at a young age. I'm always questioning the "why" even if things "just-work".

I like technical challenges which can be software, firmware or device hardware related. This can be both high-level (architecture) or low-level (e.g drivers).

Education

HAN University of Applied Sciences

Arnhem (NL)

EMBEDDED SYSTEMS ENGINEERING (BACHELOR DEGREE)

2010 - 2013

- First Year
 - C (embedded) programming, digital and analogue electronics
- Second Year
 - Data-communication, VHDL, C++, Operating Systems, Databases, Digital Signal Processing
- Third Year
 - Embedded Vision Minor
 - Graduation intern ship at Prodrive Technologies (see Experiences).

Leeuwenborgh Opleidingen

Sittard (NL)

TELECOM ICT ENGINEER (MK-TEL/ICT MBO DEGREE)

2006 - 2010

- Electrical Engineering
- Routing & switching technology
- Information technology

Skills

Operating Systems	Windows, macOS, (Embedded) Linux, FreeBSD
Programming	C, C++, Golang, Shell scripting, Python, \LaTeX
Build Systems	(C)Make, Debian packaging, Buildroot
Databases	Redis, InfluxDB, MySQL
Embedded platforms	ARM (STM32, ARM9, R5), Microblaze softcore, MSP430, AVR, PowerPC, AMD Xilinx FPGA MPSoC
Protocols and interfaces	Serial, CAN-bus, I ² C, SPI, TCP/UDP
DevOps	Git, Ansible, Jenkins, Bitbucket, Artifactory, Github actions, Docker

Languages

Dutch	Native
English	Professional working proficiency
German	Elementary proficiency

Open-source

I'm an open source enthusiast and promoter since I started using Linux in 2006 personally. In my professional career and spare time I created and/or maintain the following notable projects hosted on Github:

xor-gate/debpkg	Software packaging for Debian written in pure Golang (crossplatform)
syncting/syncting-macos	Syncting bundle for macOS written in Objective-C and Swift
texane/stlink	STM32 microcontroller programming and debugging crossplatform tools written in C

Experience

Adimec

Eindhoven (NL)

DEVELOPMENT ENGINEER FIRMWARE

September 2020 - Current (> 3 years)

Design and implementation of low-level micro-controller firmware in C/C++ on Xilinx FPGA platforms. Development and maintenance of internal tooling in C/C++ and Python. Creation of custom device firmware test framework in Python.

Heliox

Best (NL)

EMBEDDED (LINUX) SOFTWARE ENGINEER

August 2019 - August 2020 (1 year)

I assisted implementing CI/CD DevOps pipelines for applications and firmware to be build using Jenkins and stored in Artifactory. Development of C/C++ applications using the CMake build system. Responsible of a central Debian Linux development server managed using Ansible.

Dual Inventive

Oisterwijk (NL)

IoT CLOUD ARCHITECT (ROLE)

February 2019 - June 2019 (6 months)

Responsible for the Southbound interface of the custom MTinfo 3000 IoT Cloud micro-service architecture which is used in the rail sector. Coupled with safety-critical and sensing devices. The Southbound interface of the cloud is the part where the IoT devices are connected, provisioned, and data routing and storage is located.

Dual Inventive

Oisterwijk (NL)

EMBEDDED SOFTWARE ENGINEER

April 2015 - June 2019 (4 years)

Design and implementation of IoT firmware for Cortex-M controllers in C11. At first we wrote cloud software in C++11, and changed gradually to Golang for speed of development and improved quality. I worked in the embedded and backend teams using the SCRUM method. My tasks ranged from designing, implementing and testing multiple firmware and software projects. I was responsible for keeping the Linux DTAP environment servers up and running. And configuring and updating the software using Ansible.

Prodrive Technologies

Son & Breugel (NL)

(EMBEDDED) SOFTWARE ENGINEER

May 2013 - March 2015 (2 years)

Developed of RapidIO interconnect control-plane libraries which are used to configure the routing of the RapidIO network switches. Test automation was implemented using shell scripts and C libraries from a Linux host. Nodes boot over the network using TFTP and NFS. Qualification of the software was fully automated and reports were automatically generated using a custom \LaTeX package which I created and was later company wide adopted.

Prodrive Technologies

Son & Breugel (NL)

GRADUATE EMBEDDED SOFTWARE ENGINEER

February 2013 - April 2013 (3 months)

My Embedded Systems Bachelor end thesis subject was focused on a modular Embedded Linux Board Support Package (BSP) for Freescale i.MX 6 platform. Which includes a custom U-Boot boot loader with A-B dual partition scheme for seamless system updates. The BSP was build from scratch with open-source components. The BSP would be used as a base for sensing and control (industrial) devices.

Artron bv

Arnhem (NL)

EMBEDDED SOFTWARE ENGINEER

2011 - 2012 (1 year)

During my bachelor embedded systems study I worked part-time for Artron to design and implement flexible firmware for interactive led walls. The RGB RS485-connected LED nodes where an STM32 microcontroller which functioned as the bus-master.

Elektor International Media bv

Limbricht (NL)

TECHNICAL LAB ASSISTANT

2008 - 2010 (2 years)

During my MBO Telecommunications ICT study I was an intern and graduate at Elektor. I also worked part-time during my education in the Lab. My main responsibilities where to re-implemented sent in prototype microcontroller based circuits by hobbyists and verify they're working.

Personality and Interests

I'm a self-taught, structured and motivated person. I like to work in a team, and I can also solve complex problems on my own. I am flexible employable and driven to reach my deadlines without an 9-to-5 mentality. I'm intrinsic motivated to keep people in the loop during a project. Being proactive makes me socialise easily and I always like to meet new people.

I keep my well-being balanced by being physical active with practising yoga, walking, swimming, cycling and working in my community vegetable garden. When there is any spare time left I like to home-brew beer, and love to program on open-source software in the evenings.