



Jerry J.J. Jacobs

EMBEDDED SOFTWARE ENGINEER

🏠 xor-gate.org | 📱 [xor-gate](https://www.linkedin.com/company/xor-gate) | 🌐 [xorgate](https://www.xorgate.com)

Summary

Embedded Software Engineer with 10+ years experience of developing C/C++ software that has some type of connection to the physical world. Not scared of picking up a soldering iron and logic analyser or oscilloscope to find a software or hardware issue.

I'm looking for challenges in embedded software and related. This can be both high-level or low-level on microcontrollers. As long as there is some type of interaction to the physical world.

Education

HAN University of Applied Sciences

Arnhem

BACHELOR EMBEDDED SYSTEMS ENGINEERING

2010 - 2013

- First Year
 - C, Digital and Analog electronics
- Second Year
 - Data-communication, VHDL, C++, Operating Systems, Databases, Digital Signal Processing
- Third Year
 - Embedded Vision Minor
 - Graduation Internship at Prodrive Technologies

Leeuwenborgh Opleidingen

Sittard

MBO

2006 - 2010

- Telecommunications ICT Engineer

Skills

Operating systems Windows, macOS, (Embedded) Linux, FreeBSD

Programming C, C++, Golang, Shell scripting, Python, \LaTeX

Build systems CMake, Debian packaging, Buildroot

Databases Redis, InfluxDB, MySQL

Embedded systems ARM (STM32, ARM9, R5), Microblaze softcore, MSP430, AVR, PowerPC

Protocols and interfaces Serial, CAN-bus, I²C, SPI, TCP/UDP

DevOps Git, Ansible, Jenkins, Bitbucket, Artifactory

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 free time and professional career I created and/or maintain the following projects on Github:

xor-gate/debpgk Software packaging for Debian written in pure Golang

syncthing/syncthing-macos Syncthing bundle for macOS written in Objective-C and Swift

texane/stlink STM32 programming and debugging tools written in C

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 like to socialise and meet new people.

I keep myself in balance by being physical active with swimming, cycling and working in my community vegetable garden. When time permits I like to brew beer during winter time and love to program on open-source projects in the evenings.

Experience

Adimec

DEVELOPMENT ENGINEER FIRMWARE

Eindhoven

September 2020 - Current

Design and implementation of lowlevel microcontroller firmware in C/C++ on Xilinx FPGA platforms.

Heliox

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Best

August 2019 - August 2020

I assisted implementing CI/CD 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 configured using Ansible.

Dual Inventive

IoT CLOUD ARCHITECT

Oisterwijk

February 2019 - June 2019

Responsible for the Southbound interface of the MTinfo 3000 IoT Cloud 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

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Oisterwijk

April 2015 - February 2019

Design and implementation of IoT firmware for Cortex-M controllers in C11. And design and implementation of the MTinfo 3000 platform backend based on micro-service architecture. At first we wrote cloud software in C++11, and changed to Golang for speed of development and improved quality. I worked in the embedded and backend teams using the SCRUM method with iterations of two weeks. 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

SOFTWARE ENGINEER

Son

May 2013 - March 2015

Developed of RapidIO control-plane libraries which are used to configure the routing of the RapidIO network switches. Multiple nodes are placed in an ATCA rack interconnected with RapidIO and Ethernet. 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 where automatically generated using a custom \LaTeX package which I created and was later adopted company wide.

Prodrive Technologies

GRADUATE EMBEDDED SOFTWARE ENGINEER

Son

February 2013 - April 2013

I did my final thesis at Prodrive for my Bachelor degree. My 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 would be used for sensing and control products.

Artron bv

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Arnhem

2011 - 2012

During my Bachelor study I worked part-time for Artron to design and implement flexible firmware for interactive led walls. The panel is split into a modular grid of nodes which have a few RGB leds and an capacitive sensor per led. The nodes where connected using a RS485 half-duplex network which is controlled from an STM32 microcontroller which functioned as the bus-master.

Elektor International Media bv

TECHNICAL LAB ASSISTANT

Limbricht

2008 - 2010

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.