

# Arjan Wooning

## Senior software developer (Freelance)

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Originally from the Netherlands, I have been living in the Czech Republic since 2011. I am a native Dutch speaker and fluent in English, with expertise in embedded software development, Linux, and a strong background hardware development.

I build high-uptime systems with clean, well-documented, and readable code. My work ranges from C/C++ on devices to Python control logic and backend services coordinating physical assets, such as batteries, inverters, sensors, pumps, and more.

Available for contract and remote engagements.

## Professional Experience

### Senior Software Developer (Freelance)

Self-employed | Vraclávek, CZ | Aug 2025 — Present

As a freelance Senior Software Developer, I help companies with product development to design and build reliable software solutions. I'm specialized in embedded software and backend development, where I build systems that enable seamless communication between devices and platforms.

Key expertise and deliverables:

- **System Development (Python/C on Linux):** Design and implement robust software systems, primarily utilizing Python and C on Linux environments, with a critical focus on modularity and high performance.
- **Specialization in energy solutions:** Proven capability in delivering specialized software solutions tailored for the complex requirements within the energy solutions sector.
- **Connectivity & Messaging:** Expertise in architecting systems that ensure seamless communication, frequently leveraging MQTT message brokers and building powerful REST APIs for platform-to-device connectivity.
- **Core Competencies:** Focused expertise in embedded software, backend development, implementing detailed monitoring services, and maintaining version control using Git.

### Senior Software Developer

Tieto | Ostrava, CZ | Jan 2023 - Jul 2025

- At Tieto, I served as a Senior Software Developer for SOLIDSUN, leading the design and development of a modular Python-based abstraction layer for multi-brand solar inverter connectivity, deployed on Dockerized Raspberry Pi systems with MQTT and Modbus RTU communication.
- I also built a secure, scalable OTA update platform using Eclipse Hawkbbit, and optimized ultra-low-power BLE beacon firmware on Nordic hardware using Zephyr RTOS.
- Additionally, I created a Python project template with CI/CD pipelines (GitLab, Tox, Docker), and developed a cloud-integrated energy simulator and controller with Azure IoT Hub support—enabling real-time testing, orchestration, and visualization of virtual energy devices.

### Owner

Firm-ware | Vraclávek, CZ | Apr 2006 – Dec 2022

- Through Firm-ware, I provided technical consultancy to small businesses, aiming to elevate their technology and processes to a professional, user-friendly level through targeted solutions. These included VPNs, file servers, email solutions, low-power hardware, snapshot backup servers, VoIP, Linux servers, wireless networking, and offsite backups.
- I designed and built a wide range of software systems, primarily on Linux using Python and C, with a strong focus on modularity and connectivity, frequently utilizing MQTT message brokers.
- Linux is my preferred working environment due to its stability and reliability. My core competencies include embedded software, REST APIs, backend development, monitoring services, and version control with Git.

### Software Architect

Imtech Marine & Offshore | Rotterdam, NL | May 2003 - Aug 2011

- At Imtech M&O, I worked on the development of navigation systems aboard specialized vessels, including dredgers, naval ships, and luxury yachts.
- As a team lead managing 4 to 9 developers, I led the development of a complex Electronic Chart Display and Information System (ECDIS) for ship bridges, written in C/C++ with over 800,000 lines of code.
- In addition to team leadership, I served as the Linux specialist responsible for the redundant server infrastructure serving the main bridge systems.

## **System Analyst / Technical Specialist**

KPN Telecom | The Hague, NL | Mar 2000 - Apr 2003

- At KPN, the largest telecommunications company in the Netherlands, I worked within the internal software house on a variety of small and large-scale projects.
- Key contributions included working in international teams to automate the ADSL order processing pipeline using TIBCO, and developing a highthroughput billing data processing platform designed to handle large volumes of telecom usage data efficiently and reliably

## **Firmware and software engineer**

Thales Defence | Zoetermeer, NL | Jan 1997 – Mar 2000

- At Thales Defence, a leading manufacturer in the defense industry, I worked on the development of Link11, a tactical data communication system used by NATO fleets to exchange information over VHF between ships and helicopters.
- My role focused on low-level C development, including writing device drivers and Board Support Packages (BSPs) to enable the VxWorks Real-Time Operating System to run on new custom modem boards.

## **Product Developer**

Adesys BV | Wateringen, NL | Dec 1989 – Jan 1997

- At Adesys, a manufacturer of control and alerting systems for critical business processes, I focused primarily on embedded software development, while also contributing to hardware design.
- I developed software/firmware in C, Assembly, and PLM for Intel 8051 microcontrollers. Additionally, I was involved in prototyping, PCB routing, EMC compliance testing, and on-site field validation, contributing to the full development cycle from concept to production.

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## **Core Skills**

- Python
- C / C++
- Linux/Unix specialist
- Hardware development
- (Embedded) software development
- Robust solutions with high-uptime, well documented and cost awareness
- Team-worker, open in communication and open-mindedness
- Long-term thinking
- Focus on results

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## **Education**

Object Oriented and Information Technology | The Hague University of Applied Sciences (1998)

Computer Technology | Haagland Techniek, The Hague (1989)

Electronics | Haagland Techniek, The Hague (1988)

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## **Languages**

**English** (Full professional proficiency), **Dutch** (Native)

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## **Certificates**

Nordic Semiconductor: nRF Connect SDK Fundamentals & Intermediate

AT Computing certificate: AdvancedUnix Programming

WindRiver certificate VxWorks BoardSupport Packages and device drivers

WindRiver certificate:VxWorks RealTime Programming

Tibco certificates:TIB103, TIB123, TIB523, TIB202, TIB702

Mikrocentrum certificate:PCB Layout and EMC

Twiice certificate:Object Oriented Analysis and Design using UML