

Curriculum Vitae / Resume

Update: 30-december-2024



(photo 2016)

Personalia

Full (Family) Name: Mr (he/him) J.L.R. (John) **de Graaff**
Given names: Jan Lambert Rudolf (calling name: **John**)
Family situation: Single “part-time” dad for 2 daughters (now 10 and 13 years old)
Title: Master of Science in Electrical Engineering (**MSc. – MSEE**)
Address: Kaspische Zee 44, 3825WT Amersfoort, Nederland
Born: 02 December 1971 in Wieringermeer, Nederland
Telephone: +31-6-5317-8007
E-mail: john@de-graaff.net
LinkedIn: <https://nl.linkedin.com/in/jdgraaff1971n1>

Summary

First thing: my career has been **extremely diverse**, as is my personality really ...
I have developed myself in many fields: technology, science, math, engineering, communication (language, writing), marketing, psychology, and philosophy.

To provide an overview, I have created a color-based diagram ⇒ **here @right** ⇒
I have also used these colors throughout this resume as a left-side color band.

About my next challenge and desired job

I have these very different interests really:

1. **Sales Consultant / Field Engineer** ⇒ *so people & communication oriented*
2. **Software Developer / Engineer** ⇒ *so technology & development oriented*

The [1] goes back to my first full-time job at Lucent, where I just loved to be the main **tech expert** and operate in a complex environment during sales or solution delivery.

The [2] is a continuation of my career since 2020, where I love to **create solutions** using technology, so developing and engineering (complex) solutions.

My LinkedIn headline focuses on this [2] part: “*Allround Senior Telecom + Software + Linux Engineer with a knack for embedded systems.*”

About my interest in **embedded systems**: I am just fascinated by Electronics Systems, Digital Circuits, Microcontrollers, Low-level Data Comms, and connecting the “*Embedded World*” to the “*Cloud World*” (such as a central data server).

About **Linux**: I have used Linux since 1994 (Slackware on 486SX), and I have since used it in all my work, including developing kernel modules, scripting anything (also deb.pkg), and setting up 100’s of Cloud, Desktop and Embedded systems.

2024	Freelance SW Developer
2023	
2022	
2021	
2020	
2019	Freelance
2018	IT Consultant
2017	
2016	[FairFlow]
2015	Prod.Dev
2014	
2013	[TWS]
2012	Network
2011	Engineer
2010	&
2009	related
2008	SW-dev
2007	
2006	[sole-proprietor]
2005	Network
2004	Engineer
2003	&
2002	SW-dev
2001	[Lucent]
2000	Technical
1999	Sales
1998	Consultancy
1997	University / MSc.
1996	
1995	
1994	
1993	
1992	
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1990	

Education

sep-90 > aug-97	Master of Science in Electrical Engineering (MSEE, MSc. EE) at the Delft University of Technology (DUT, NL: TUD) in NLD
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Average degree (also my actual graduation degree): **8** (in the Dutch 10-based grade system)

sep-91 > sep-92	Bachelor (equivalent) in Computer Science (NL: Technische Informatica) at DUT in NLD
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sep-84 > jun-90	Atheneum-B (VWO) at “OSG Nieuwediep” in Den Helder (NLD)
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Courses, Training, and Certifications

sep-2018	ICS2.org CISSP (Cyber Security Professional) certificate
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may-2017	Cisco CCNP Routing & Switching (today called “Enterprise”) certificate
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jun-1998	NIMA-A Marketing certificate
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Work Experience

[items below with a company logo and (*) are my own companies, in which I had part or full ownership]

jan-22 > dec-24	Freelance Fullstack Developer voor DeconSystems BV
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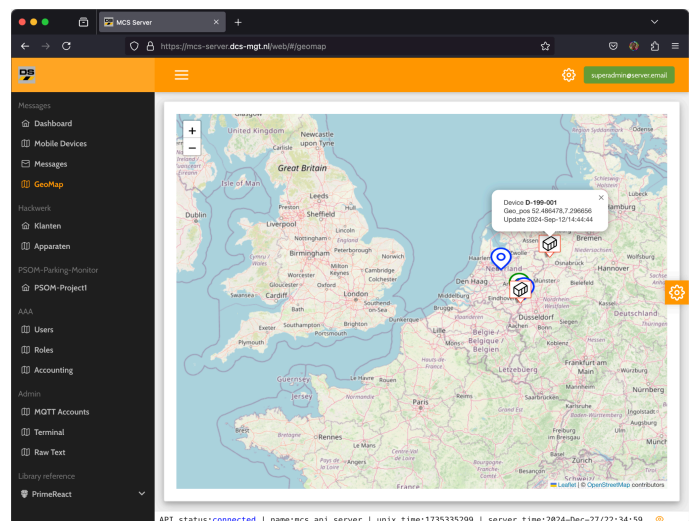
Tags: [Linux](#), [Node.js](#), [React.js](#), [Vue.js](#), [CouchDB](#), [PostgreSQL](#), [Python](#), [MQTT](#), [Docker](#), [Kubernetes](#)

A continuous part-time contract for developing diverse software projects.

DeconSystems is a specialist in the development of electrical-electronic solutions for industry, logistical, and building-security applications.

I was tasked to design and develop:

- [1] a central cloud server with a REST API, with a dedicated Admin Web UI, and MQTT broker+agent
- [2] an embedded Linux platform, to be used on Raspberry Pi or other small and fanless SBC devices, with its own REST API and Web UI.



jul-24 > oct-24

Software Engineer voor **Atomeus Data Solutions BV**

Tags: [Linux](#), [Node.js](#), [React.js](#), [PostgreSQL](#), [Python](#)

A full-time position at Atomeus, that ended without my doing after 4 months into the 1-year contract due to a change in business strategy.

Atomeus is an expert in data-software solutions, including RPA (Robotic Process Automation), Data Engineering, and generic AI:ML (Machine Learning) solutions.

I was to be the core architect and senior developer for their current RPA platform written in Python. Then over time, I would redesign their entire cloud platform to be a robust and scalable platform for many new data software solutions, but due to mentioned business change, I only got to develop a new web-app in React.js for RPA monitoring.

jul-15 > jun-24

Freelance Specialist vanuit **De Graaff Engineering (*)**

Tags: [Linux](#), [Python](#), [SQL](#), [SNMP](#), [PKI-CA](#), [X.509 SSL certificates](#)

My personal (sole-proprietor) software and IT services company to take on small projects next to other (full/part-time) jobs.



Some notable projects:

- [jul-15>nov-15] part-time project as **Security Specialist** at “De Haagse Hogeschool” to set up a MS Server PKI (Public Key Infrastructure) with multi-level CA (Certificate Authority) systems for automated X.509 “SSL” certificate generation
- I developed (for TWS, my old company in 2008-2014) a cloud-based software system to monitor and control the transmit-power of microwave radio units, called **Remote-ATPC** (Automatic Transmit Power Control). This was a Linux daemon (written in Python) and a web-UI (written in Python Fast-API) to display logs and graphs for monitoring.

mar-22 > may-22

Freelance **Senior Software Engineer** bij **Viterra BV**

Tags: [Node.js](#), [React.js](#), [PostgreSQL](#)

A full-time freelance-contractor position at the Dutch office of Viterra, a worldwide agriculture logistics and trading company.

I was part of a Firewall migration team for firewall appliance replacement in all offices worldwide and to set up a centralized, policy-based monitoring and control solution. Where others focused on the Fortigate configuration and (hierarchical, deeply structured) cyber-security policy definitions, I was tasked to develop a web-based umbrella dashboard and control system.

jun-21 > may-22

Freelance **Network Automation DevOps Engineer** bij **ING Bank**

Tags: Python, Ansible, Node.js, React.js, MS Azure Cloud, DevOps, CI/CD, Docker, Kubernetes

A full-time freelance-contractor position at the ING Bank.

I was part of a LAN network migration team, to prepare and automate a fork-lift upgrade of all network equipment in all (customer services) offices worldwide.

My task was the development of a web-based dashboard and central-control system, that connected to internal APIs of the HP-Aruba Cloud Tools for reading-writing the status and configuration of all components.

jul-21 > dec-23

Freelance **Fullstack Software Developer** at **TokenMe BV**

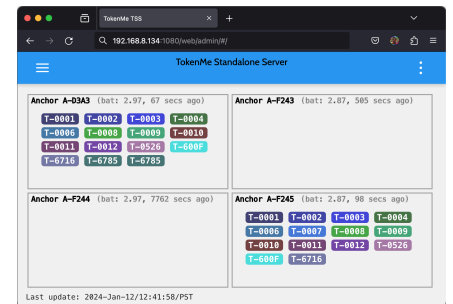
Tags: Linux, Node.js, React.js, MongoDB, PostgreSQL, MQTT, LoraWAN, Docker

I designed and developed a cloud-based backend data server (called TokenMe Cloud Server or TCS) using Node.js code on a Linux-Debian VPS cloud-server, using a dual database storage strategy (PostgreSQL for large data, and MongoDB for flexible data), and a REST-API.



I also developed a related project: an “engineering dashboard” which is a Web-UI frontend using React.js

I used a TDD (Test Driven Development) approach, CI/CD pipelines, and Git code management on GitHub.



jun-21 > sep-21

Freelance **Embedded SW Developer** at **Applied Nanomaterials BV**

Tags: C-language

A part-time freelance-contractor position for the continued development of a microcontroller system.

I developed a microcontroller (Intel MCS-51/8051) program (in C language) for robot control.

nov-20 > jun-21

Freelance **Network Specialist** at **Eindhoven Fiber Exchange (EFX)**

Tags: Ruby-on-Rails, PostgreSQL, Vue.js

A part-time freelance-contractor position for architecture consultancy and software development.

I designed and supported the sourcing of a new FTTB (Fiber to the Business) network. I also developed a CMDB tool using modern web technologies.

ju1-20 > oct-20

Freelance **Specialist API Standards** at **Logius** (government)

Tags: OAuth protocol stack, Github Actions/Webhooks, ReSpec W3C

A full-time freelance-contractor position at Logius, a specialized IT services institute part of the Dutch Ministry of internal affairs.

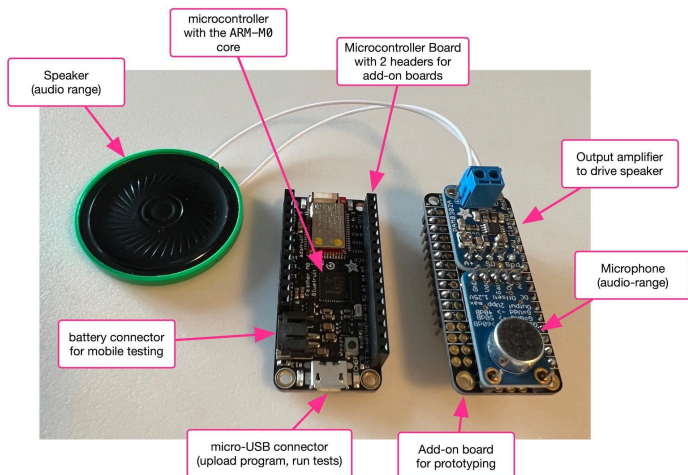
A short project where I supported two new standards that are widely used within the Dutch government (and presumably outside as well): "API Design Rules" and "OAuth-NL-profile".

jun-20 > oct-20

Product development in **Anti Virus Sound Bubble (*)**

Tags: Product development, Hardware Embedded & Electronics development, C / C++, DSP

One of my many technology & business ideas, for later use as a startup company, if this (early) development was a success (which it wasn't).



The goal was to develop a small wearable appliance with sonic (sonar-like) sensors to detect other appliances, the distance to them, and the duration of proximity.

The idea originated from the call for solutions during the COVID-19 pandemic. I am also the writer and inventor of a multi-region patent for a core part of this technology.

This project received a government grant for innovation.

aug-19 > mar-20

Freelance **Senior Architect Connectivity** at **Logius** (government)

Tags: Networking protocols (MPLS, BGP), Doc-mgt: SharePoint, Jira, Confluence.

A full-time freelance-contractor position at Logius, part of the Dutch Ministry of Internal Affairs.

I worked in a group called "Diginetwerk" which supported a range of Data Network and Interconnection facilities for the national government and ministries in The Hague.

The main topics were:

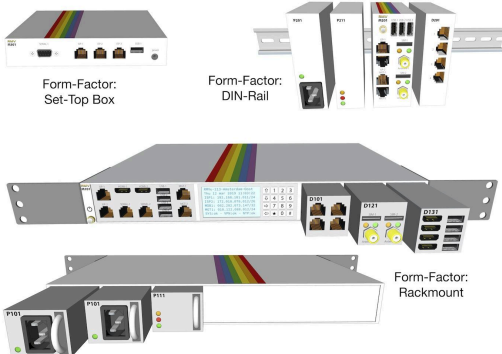
- **Haagse Ring** – Data connections between ministry buildings in The Hague.
- **KPS** – "Koppelpunt Publieke Sector" (English: Network cross-connect for Public Sector).
- **Central DNS-NTP facilities**

I followed an Internal training with a certificate in SAFe (Scaled Agile Framework), which is the central Agile / Scrum method used at Logius.

jan-19 > jul-20

Product development in **MURAPI BV (*)**

Tags: Hardware Server development, Product development



One of my many technology & business ideas, for later use as a startup company, if this (early) development was a success (which it wasn't).

The goal was to develop a “Combined Hardware-Software Appliance Platform” for industrial computer servers, with a focus on remote-site deployment with central management.

sep-18 > dec-18

Product development in **Tridentity BV (*)**

Tags: Cyber Security, Encryption



One of my many technology & business ideas, for later use as a startup company, if this (early) development was a success (which it wasn't).

The goal was to develop an authentication and authorization system based on pseudonymity, where the identity of a person during an authentication process or authorization process, would not need to be revealed.

jun-18 > jan-19

Freelance **Corporate Security Manager** at **Kadant** in Weesp, NLD

Tags: Cyber Security, IT-Architecture

A full-time freelance-contractor position at the headquarters of the Kadant European operations.

I developed a corporate cybersecurity policy and implemented parts thereof in a Firewall migration and Office WiFi migration projects.

mar-17 > may-18

Freelance **Senior Network Architect** at Air Traffic Control (**ATC**)

Tags: Data Networking, IT Architecture

This was my first full-time freelance-contractor position as a (generic) IT specialist.

I have developed an architecture for the network modernization project called “Network 2.0”. This was a multi-layered, multiple resilience (High Availability, HA) network design using the MPLS transport stack in both LAN, MAN, and WAN.

Tags: Linux, C, Python, Swift (Apple iOS / Mac)



After TWS I wanted to set up something completely different, something *not working with products and technologies that are designed and developed by other minds* – I wanted to **create my own new technology** !!

During my years at TWS, I could clearly see the **technology gap** between the unreliable TCP/IP data networks and the (part theoretical) technologies (such as ATM cell-based transport protocols) that I studied at university ... and I found a way to span this gap and provide real transport quality with actual guarantees, which goal is called **Quality of Service (QoS)** in the industry. This project also received a government grant for innovation.

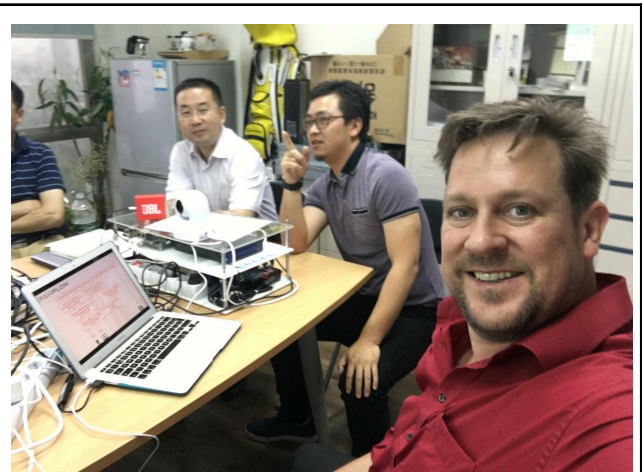
Before founding this **High-Tech Startup**, I first scouted for a non-tech (financial) co-founder, and I found one at the Rotterdam School of Management (RSM) at Erasmus University. Together we joined the Launch-Lab program at the **Yes!Delft high-tech university incubator** in Delft, and shortly after we founded the company with 200k euros start-up capital (100k from a business angel).

I also talked to a Delft University professor and considered starting a **PhD project** on this topic, but I could not spare the time. And to discover the latest QoS developments in the TCP/IP protocol stack, I attended the **IETF-94 standardization meeting** in nov-2015 in Yokohama, Japan.

Unfortunately, during the next financial round (series-A of 2 million euros), while pitching to investors in both Europe and China (the home country of my associate), we lost interest and folded.



Me holding our “large prototype” in our office



Me demo'ing our (small) prototype in Beijing

Despite the **business failure**, this was a **success on a technological level**:

[1] we did file a worldwide (multi-region) **patent** (which makes me an official inventor ;-)) (with patent nr = WO2017186720A1, look it up on <https://patents.google.com>), and

[2] we did develop an (early) **prototype** using a custom Linux kernel module (written in C) to simulate low-level queuing decisions and I developed software in Python as a background daemon on embedded Linux SBC devices, that locally interfaces with the kernel module, and remotely interfaces with a MacOS program written in Swift for UI and demo control.

sep-07 > mar-15

Network Architect & Engineer in **TWS (*)**

Tags: [Data Networking \(TCP/IP, OSPF, BGP\)](#), [IT Security](#), [Perl](#), [SQL](#), [Linux](#), [X.509](#)



I was the **co-founder** and (sole) **architect** and **senior engineer** for this IT company: we delivered and maintained Company Data Networks (LAN, MAN, and WAN), and later we delivered Internet Access Services (IAS) as a registered Internet Service Provider.

This company was a BV, of which I was 25% owner and that became part of the TWS group of 4 companies, with a total of 150 employees and 16 million euros turnover in 2014 (just before I left).

My reason for starting this company was mainly to grow beyond a 1 or 2-person company and to grow as an entrepreneur and create a business model that would grow in size as the business grew. I also wanted to stop giving training flying all over the world and start a family in my home country.

Next to a company director, architect, and engineer, I was also a software developer for some internal projects, mainly for **Network Maintenance** and **Network Automation**:

- **RMV** (Remote Monitoring over VPN, continuation of earlier development) totaling 150+ units
- **FlexVPN**: a hub-spoke VPN system for central management and support of field engineers
- **NetAdmin**: a CMDB management system also providing RADIUS+DHCP services.

jan-04 > aug-07

Product development in **SmallBizConcepts BV (*)**

Tags: [Technical Instructor](#), [Data Networking](#), [Perl](#), [PHP](#), [SQL](#), [Linux](#), [X.509 SSL certificates](#)



This company was my first limited-liability operating company (in Dutch:BV form, similar to Ltd. in UK or LLC in USA), set up with a business associate and close friend. My activities in my previous enterprise (2001-2003) continued here, including trainings worldwide.

The core business model was to develop a standardized Microsoft Business Server (File server, Email, Calendar, etc.) for SME companies, with a small company (20 empl.) as launching customer.

I also took on projects as a Software Developer, with some notable projects:

- development of a remote monitoring and management solution called **RMV** (for: Remote Management over VPN) which was an embedded Linux-based SBC appliance with an OpenVPN connection to a shared VPN-Hub, and a local Perl script to continuously monitor local devices (Ping uptime and latency, SNMP network bandwidth), and a Perl-based Web-UI to view the status graphically.
- development of the **Ingosur** web application for providing **automated car insurances** to registered dealers, including the generation of a PDF document as an official car insurance card (printed locally at the car dealer). This project was for a local innovative insurance company called Ingosur, and the web-app was discontinued in 2017. This project had 100+ code changes maintained in SVN (well before the rise of Git). The code was written in PHP, using a MySQL database, and had a separate admin interface, and XML-RPC API interface for third-party access (well before the rise of the JSON-based REST API interface).

aug-01 > dec-03

Freelance Trainer-Specialist in **NetworkConcepts (*)**

Tags: [Technical Instructor](#), [Data Networking](#), [IT Security](#), [Perl](#), [Linux](#)



In mid-2001 the worldwide telecom business was going south and Lucent was laying off people; I did not see a single customer or project in over a year, so I decided to just quit, and keep growing in a new incarnation: as a (sole proprietor) **entrepreneur !!**

Next to small (data networking and security related) projects, I was trained to become a trainer for the design and installation of the **SYSTIMAX products** that Lucent sold (by now a split-off called Avaya), and I started to give 3 or 4-day **training sessions** first in the Netherlands, then Europe-wide, and later when the then head-trainer quit, I gave this 4-day training **worldwide** (including outside Europe and USA: India, China, Japan, Indonesia, Saudi-Arabia, Egypt, South-Africa – and I got a platinum level frequent flyer card in the process ;-)

I also was a freelance software programmer, with some notable projects:

- development of a **Private Search Engine** for Rijkswaterstaat (Dutch infrastructure authority)

apr-98 > aug-01

Technical Sales Consultant bij **Lucent Technologies**

Tags: [Sales Consultancy](#)

I was looking for a way out from the Systems Engineering world and wanted to learn entirely new things in the Consultancy or Sales world. Then I found within Lucent a position as **Technical Sales Consultant** for the **SYSTIMAX products**, in which I would soon flourish and shine; I appeared to be very good at **reading the room** and **understanding the real issues** of customers or business partners (or colleagues) and communicate deep technical or abstract topics to people of various backgrounds, and soon I was writing and delivering **technical (keynote) presentations** to audiences up to 300.

As I am always curious and open to learning more, I decided to follow an official **course on marketing** (called NIMA-A) to better understand the business and sales aspects and psychology of it all.

I also traveled a lot worldwide (this was all before the dot-com bubble burst). And because of my earlier experience in international standardization, I was also charged to be the **European Lucent representative** for the standardization of the LC fiber connector, which got me in a plane flying around even more – and I loved it ;-)



sep-97 > mar-98

Junior Systems Engineer at Lucent Technologies Bell Labs

Tags: [Systems Engineering](#)

Lucent was a split-off from the mighty telecom giant **AT&T** and the renowned **Bell Labs** (inventor of the transistor, the laser, the C programming language, Unix, and much more) went with it. Lucent and its Bell Labs subsidiary were in 2006 acquired by Alcatel, and since 2016 it is owned by **Nokia**.

This was my first full-time job at **MSc. level**.

My graduation project was actually at **Bell Labs** and after graduation, I accepted a junior position in the systems engineering group. During this (short) position, I visited the Bell Labs headquarters in **Murray Hill, NJ**.

I was involved in the international standardization of the **SDH** transport protocol family, and the formal verification of some internal protocols (protection switching). I attended many standardization meetings throughout Europe. This SDH stack now has largely disappeared from the telecom world, but many concepts and methods have reappeared in the ISP world, in the MPLS transport protocol.

dec-96 > jan-97

Software developer at TNO (TNO-FEL lab)

Tags: [Delphi](#)

A (short) IT student position to create a Delphi program which was an early geo-positioning UI for simulation of helicopter tactics for the Dutch Armed Forces.

mar-95 > aug-96

Software developer at MTO BV (side project next to study)

Tags: [C](#), [Delphi](#)

A side hustle job next to my MSc. study that grew to be my first real SW programming experience:

- a C-program for an 8051 microcontroller providing device driver functionality for a trackerball pointer device with an RS-232 serial interface to a Windows 3.x computer to be used on a sales/demo system for trade shows.
- a Delphi (Object Pascal) program for Windows 3.x which was a product catalog using an internal SQL database and packaged on a CD-ROM to be handed out to 1000+ people at the yearly Machevo industrial trade shows.