

# Rudger van Brenk / Eliso B.V.

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Seasoned freelance (embedded) software engineer/developer/architect. Highly motivated and results-driven professional with over 25 years of experience in tech industry. Strong communication and leadership skills, with a passion for driving your products and developing effective solutions. Currently seeking new opportunities to apply my skills and experience to drive our business success.

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## Personal Information

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## Skill and Technology

A constant learner, always eager to stay current with the latest technologies and trends. Proven ability to quickly adapt and integrate new tools and techniques to drive success. Below a summary of the technology and tools used in past projects.

**Knowledge**

**Languages:** C, C++, Lua, Java, Perl, javascript, php, python, bash

**Communication/Protocols:** TCP/IP, UDP, HTTP, SSL, TLS, SIP, RTP, RTCP, RTSP, mDNS, MQTT, IPsec, PPP, PPPoE, PPPoA, DNS, RS232, RS485, I2C, I2S, SPI, MIPI-CSI2, GigE Vision, HAP, LLDP, TR-69

**Media:** H.264/AVC, H.265/HEVC, ISO-BMFF, MP4, MPEG-ts, DASH, HLS, AAC, AC3, EAC3, MP3, Opus, uLaw, aLaw

**Connectivity:** Ethernet, WiFi, Mobile, DSL, SPF

**Virtualization:** Docker, Kubernetes, KVM, SAAS

## Current projects

### 2024-current ABB E-Mobility BV

*Development, design and implementation of ABB E-Mobility next generation flexible and scalable high power EV charging solutions.*

**Keywords:** C, C++, Linux, yocto, bitbake, python, imx6, imx93, freeRTOS, STM32, wolfSSL, lwIP, MQTT, CBOR, CAN, CAN over Ethernet, mDNS/DNS-SD, IPv6, I2C, SPI, LLDP, Cybersecurity

- 2021-current**      **Robin Telecom Development BV** (parttime)
- Development, design and implementation of an HD-video intercom product with touchscreen, the camera interface consists of an image signal processor connected over MIPI-CSI2 and an external CMOS sensor.*
- Keywords:** Linux, Device driver, C, Lua, SIP, RTSP, IMX8MM, AP1302 ISP, H.264/AVC, ISO-BMFF, DASH, HLS, aarch64, I2S, AP1302, MIPI-CSI2, I2C, mDNS, DNS-SD, AAC, Apple Home Automation protocol
- 2013-current**      **MuLogic BV** (parttime)
- Industrial network router/modem product development (ADSL/VDSL/WWAN/WAN/SPF).*
- Keywords:** C, Lua, embedded Linux, Linux kernel modules, StrongSwan, IPSec, ATM, PPPoE, PPPoA, openVPN, RS485, I2C, VPN, MIPS, IPv6, Quagga, Zebra, Radius, TR-69, firewall, TACACS+, SNMP, DNS, DHCP, Docker

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## Past projects

- 2023-2024**      **Thales Nederland BV**
- Development, design and implementation of the Gatekeeper product. Gatekeeper provides a 360° panoramic view for surveillance and awareness around the ship using staring IR and high resolution TV cameras.*
- Keywords:** C, C++, Linux, GigE Vision, GenICam, NVidia CUDA, Ansible
- 2018-2023**      **ActiveVideo networks BV** (parttime)
- Research, development and design of a virtualization platform for content applications, including smart distribution of the user-interface and DRM protected media to connected customer premise equipment such as set-top boxes.*
- Keywords:** C, C++, Agile, SAFe, Android/AOSP, OpenGL ESv2, DRM, Widevine CDM, PlayReady CDM, ISO-BMFF, MP4, DASH, HLS, MPEG-ts, H.264/AVC, H.265/HEVC, AAC, AC3, EAC3, VAST, Docker, Kubernetes, AWS, HTTP, HTTPS, HTTP/2, Web-sockets, CENC, SaaS, Broadcom based set-top boxes NEXUS
- 2021-2022**      **Robin Telecom Development BV** (parttime)
- Design and development of a video intercom interface for MS-Teams hub.*
- Keywords:** C, Lua, SIP, MS-Teams
- 2017-2018**      **Robin Telecom Development BV** (parttime)
- Design and development of dooreentry/intercom-camera using the Apple Home Automation Protocol.*
- Keywords:** C, Lua, RTP, SRTP, RTCP, OMAP3, TI Davinci DSP, H.264/AVC, Opus, Web-RTC, ARMv7, NEON, mDNS, AEC, Apple Home Automation protocol
- 2015-2018**      **ActiveVideo networks BV** (parttime)

Development of html rendering engine (based on WebKit) and implementation of streaming media interfaces (using MSE/EME), this engine is used in multiple media streaming and casting platforms.

Design and development of a Video transcoder appliance used for (on-demand) media asset transcoding and live broadcast channel scaling of the media streaming platform.

**Keywords:** C, C++, Agile, Scrum, webkit, GStreamer, H.264/AVC, MPEG2, MPEG4, libavcodec, libavformat, multicast, SSM, MPEG transport streams

**2014-2016**

**IP-Lease BV / CyberTwice BV** (parttime)

Research design and development of multi-tenant secure SIP voice recording cluster integrated in the secure operator network.

**Keywords:** C, Lua, SIP, SIPrec, SRS, Voip, SDP, RTP, RTCP, Caringo Storage, ElasticSeach, AAC, ulaw, alaw, GSM, AMR, AMR-WB, RSA, AES, MIFIDII

**2010-2015**

**Robin Telecom Development BV** (parttime)

Development, maintenance and feature development of a Voip intercom with high resolution camera and CCTV cloud video features.

**Keywords:** C, Lua, SIP, RTP, SIP stack, OMAP3, TI Davinci DSP, H.264, AVC, H263, MPEG4, ARMv7, NEON, mDNS, HLS, HTTP Live streaming, FLV, Speex, AEC, ulaw, alaw, gsm, Cloud recording

**2011-2014**

**ActiveVideo BV** (parttime)

Development of media source extensions cloudbased video player for use in the StreamCast platform.

Development of CloudTV sessionmanager and backoffice integration projects.

Make the complete platform compatible with IPv6.

Development of the video transcoder appliance used for (on-demand) media asset transcoding and live broadcast scaling of the RenderCast platform.

Development of a cloudbased video on demand player application.

**Keywords:** C, Java, Agile, webkit, H.264/AVC, MPEG2, MPEG4, avcodec, avformat, IPv6, XML, JSON, UDP, HTTP, MMS, HLS, RTMP, multicast, SSM, MPEG transport streams, MPTS, java, RTSP, redundancy

**2010-2011**

**ActiveVideo BV** (parttime)

New feature development and maintenance on the Cloud-TV platform.

Implementation of a Video/Audio stream scaler.

New feature development of flash transcoder.

**Keywords:** C, AVC/H.264, MPEG2, avcodec, avformat, flash

**2009-2010**

**Gatix LLC** (parttime)

Design and implementation of a WiMAX ASN-gateway application.

Implementation of an R6 protocol stack.

**Keywords:** C, Wimax, ASN-gateway, R6, radius, IP, GRE, bootp relay

<b>2009-2010</b>	<p><b>Robin Telecom Development BV</b> (parttime)</p> <p>Development of a Linux based Voip-Video telephony recording server. Development of webservices to convert speech to text.</p> <p><b>Keywords:</b> C, LUA, SIP, RTP, voice codec handling (uLaw/aLaw/G729/GSM), video codec handling, H.264/AVC, H263, SIP proxy server, RTP proxy server, LUA SIP stack, mDNS</p>
<b>2009-2010</b>	<p><b>MuLogic BV</b> (parttime)</p> <p><i>New feature development and maintenance of an industrial ADSL modem.</i></p> <p><b>Keywords:</b> C, embedded Linux, Linux kernel modules, IPSec, racoon, NAT-T, VPN</p>
<b>2009-2010</b>	<p><b>Robin Telecom Development BV</b> (parttime)</p> <p>New feature development and maintenance of a SIP entrance/intercom telephone.</p> <p><b>Keywords:</b> C, LUA, SIP, RTP, DTMF, HTTP, (eX)osip2, voice codec handling (uLaw/aLaw/G729), mDNS</p>
<b>2009-2009</b>	<p><b>Active Video BV</b> (parttime)</p> <p>New feature development and maintenance on the RenderCast interactive IP-TV platform. System integration with different Video on Demand (VOD) asset systems.</p> <p><b>Keywords:</b> C, Java, JavaScript, perl, php, mySQL, HTTP, RTSP, XRT</p>
<b>2008-2009</b>	<p><b>RFI-Engineering BV</b> (parttime)</p> <p><i>Complete product development of a GSM/GPRS/EDGE gateway which is used as backup connection in order to control on-site equipment</i></p> <p><b>Keywords:</b> C, embedded Linux, MIPS32, ADM5120, GSM, GPRS, EDGE, AT, HTTP, SSL, XML, GSM 07.10 multiplexing</p>
<b>2008-2008</b>	<p><b>Avinity Systems BV</b></p> <p><i>Development of a Java application which is used to simulate user activity on an interactive IP-TV platform, the application captures and analyses the MPEG streams.</i></p> <p><b>Keywords:</b> Java, MPEG2, HTTP, RTSP, XRT2, RTP, UDP, Mozilla Rhino javascript API, SUN Netbeans</p>
<b>2005-2008</b>	<p><b>Hopling Technologies BV</b></p> <p>Product development of various different wireless and wired networking nodes, such as metropolitan MESH nodes, WiFi Hotspots, DSL, UMTS and LAN Gateways. Development of proprietary networking protocols used for node discovery, automatic configuration and backoffice communication.</p> <p><b>Keywords:</b> C, embedded Linux, ARM, Xscale, i386, Scripting, IEEE802.11 (WiFi), IEEE802.16 (WiMAX), TCP/IP, HTTP, PHP, XML, firewall, SSL, IEEE802.3, IEEE802.1d, RedBoot, uBoot, GSM, UMTS, VPN, SSH, mySQL</p>

<b>2001-2005</b>	<b>Conexant BV/Globespan Virata BV/Intersil BV</b> Design and implementation of WiFi MAC protocol layers. Development of embedded Linux access point development kits. WiFi kernel device drivers. Qualification testing and simulation of new wireless ASIC chipsets. Deliver OEM customer support (occasional on-site). Attending to multiple WiFi plugfests.  <b>Keywords:</b> C, ARM, uCLinux, embedded Linux, WiFi, 802.11 (WiFi), WPA1, WPA2, Ethernet, TCP/IP, SNMP, HTTP, Verilog simulation, bootloader
<b>1999-2001</b>	<b>Profit Consulting BV</b> Multiple contracting projects for customers for external customers: <ul style="list-style-type: none"> <li>• Thomson Signaal Communications (currently Thales)</li> <li>• Vitatron</li> <li>• Fuji film</li> </ul> <b>Keywords:</b> C, device drivers, OpenVMS, RDB, SUN solaris, CMM.
<b>1997-1999</b>	<b>PID BV</b> Multiple contracting projects for external customers: <ul style="list-style-type: none"> <li>• Holland Signaal (currently Thales)</li> <li>• Nedap</li> </ul> <b>Keywords:</b> C, device drivers, test tooling.

## Education / Training

<b>2009</b>	<b>Prince II foundation</b>
<b>1999</b>	<b>Internal Training CMM</b>
<b>1997</b>	<b>Internal Training PID BV</b> <ul style="list-style-type: none"> <li>• Object Orientation</li> <li>• Design methodologies</li> <li>• Test techniques</li> <li>• Configuration management</li> <li>• CMM</li> <li>• Object Oriented programming in C++</li> <li>• Java</li> </ul>
<b>1992-1996</b>	<b>Hogeschool Rens &amp; Rens (HBO Bachelor)</b> Electronics and information technology / Elektronica en informatietechniek.