



M.Sc. Edgard Lima

Edgard has worked as consultant for the Nokia Research Center (NRC) Helsinki, Finland. He has authored GStreamer V4L2src plugin. He has 24 years of software development experience. He is committed to quality, can bring the state of art theory into practice, and has led small teams.

PORTFOLIO			EXPERIENCE
Accenture Modern C++, Qt, Docker, Blockchain, Linux, Raspberry, NodeMCU Arduino, GStreamer, OpenCV, Drones, Yolo Object Detection	FITec Modern C++, C, Boost, Linux, Android, GTK, Qt, JSON, XML, DBUS, CAN, J1939...	Nokia Institute of Technology C, GStreamer, DirectShow, QuickTime, Windows, Linux, Mac	Linux , 20 years C , 20 years Socket programming , 17 years C++ , 17 years Concurrent programming , 12 years Boost , 10 years

EMPLOYMENT

Senior Staff Engineer CESAR	2017 - present
<ul style="list-style-type: none"> OS X Development (Objective-C, Swift, Bluetooth Classic, BLE) 	
Professor Nova Roma College	2017 - 2018
<ul style="list-style-type: none"> Computer Science program <ul style="list-style-type: none"> Theory of Computation (2018.1) Operating Systems course (2017.2) 	
Sr. Consultant	2017 - present
<ul style="list-style-type: none"> Toptal - https://www.toptal.com/resume/edgard-lima 	
Sr. Consultant Accenture – Innovation Team	2017 - 2018
<ul style="list-style-type: none"> Developing PoC/prototypes and presenting them to clients. 	
Sr. Consultant Sr. Architect Team Lead Sr. Software Engineer FITec	2008 - 2016

- Designed and developed a bus electronic ticketing system in Modern C++, Boost, DBUS, JSON, NMEA, and Qt.
- Built a J1939/21-81 library in C, from the scratch, on top of CMSIS, for Cortex microprocessors. The library was designed to be portable and was ported to embedded Linux.
- Led, designed, and developed a DLL with image processing, GUI, and a firmware solution in C, C++, GTK for a bank check scanner.
- Incorporated Linux for completely new hardware based on ATMEL AT91SAM9G45 and developed an application for that using U-Boot, Buildroot, C. GTK, a Linux kernel, and driver development.
- Worked as the team and technical lead—adopting Scrum and TDD in several others projects.

Technologies: Modern C++, C, Boost, Linux, Android, GTK, Qt, JSON, XML, DBUS, CAN, J1939, NMEA, CMSIS, Scrum

Software Developer

Nokia Institute of Technology

2005 - 2008

- Contributed to the GStreamer project by fixing bugs and porting plugins from 0.8 to 0.10.
- Authored the V4L2src plugin.
- Consulted at the Nokia Research Center in Helsinki/Finland to leverage GStreamer as multimedia framework for the N900 smartphone.

Technologies: C, GStreamer, DirectShow, QuickTime

Team Leader | Software Architect & Engineer

CIn - UFPE

2004 - 2004

- Screened and hired the rest of the team.
- Acted as the team/technical lead and coached the junior members.
- Designed the architecture for a Waytec touch screen monitor and calibration application, for Linux and several versions of Windows, where most of the code (80%) was C++ multi-platform code.
- Developed a WDM device driver and helped the team member to develop the Linux drivers, DLLs, and GUI.

Technologies: C, C++, Windows, Linux

Team Leader | Software Architect & Engineer

CESAR

2002 - 2004

- Bug-fixed and developed Motorola TDMA phones (proprietary P2K OS).
- Worked as the team lead, SCM, an architect of a 7 people team developing games in BREW for LGE CDMA phones;
- Developed critical parts of the games.
- Developed a secure wallet application.

Technologies: C, Embedded C++, BREW, CMMI, SVN

Developer Mobile	2000 - 2001
<ul style="list-style-type: none"> • Worked in close cooperation with CEO to analyze the WAP market. • Built Satellite Forms prototypes for Palm. • Developed eVB and eVC++ prototypes for the Pocket PC. • Designed and implemented a financial PocketPC application using eVC++. • Designed and implemented a simplified eVC++ API database (like ADOCE) accessing OLEDB directly, getting optimized performance, and delivering a COM interface to be used by eVB applications. • Designed and implemented an API to exchange data between a desktop and a pocket PC using a gzipped XML file through TCP/IP. • Designed and developed a C Palm database in depth; it had several layers, including memory management, data structures, DBMS, and its own API. <p>Technologies: Palm, Windows CE, C, C++, Satellite Forms, Code Warrior, XML, VB, COM, OLEDB</p>	
Intern Wiser	1999 - 2000
<ul style="list-style-type: none"> • Developed a CGI (using C) to render the bills of a credit card company. • Designed and implemented automatics backup routines on Free BSD using Bourne shell. <p>Technologies: C, CGI, HTML, MySQL</p>	

EXPERIENCE

GStreamer V4L2src Plugin (Development)
Authored the GStreamer V4L2src plugin. If you are using your web cam on Linux, there's a good chance you are using code written by me. I also created several fixes to GStreamer.
Radio Bus (Development)
Developed a virtual radio station for Recife's public buses. The devices were installed and connected to the bus audio system to play spots and random music all day long. There were spots played on the schedule's basis and geolocation basis. It was developed in Java for Android, separated in several applications and services, one to playback, other to download and manage content, other to collect some status, and a last one to monitor the system keeping it running 24/7.
J1939-21/81 Library (Development)
Implemented J1939-21 and 81 from scratch as a library. The library was initially developed for CMSIS, but was designed to be very portable using hooks. The library now is running in thousands of ATMs and their related equipment, and it was also ported to Linux. *The link is not provided due to NDA. Edgard Lima also developed several other related products for the same company.
Nokia Internet Tablet Converter (Development)

It was GUI video converter released by Nokia. Edgard Lima developed the internal converter DLL (using Direct Show and QuickTime) for Windows and Mac and also UI hacks to make as few UI requirements as possible.

Multifunctional Terminal TMS2 (Development)

TMS2 was multi-functional terminal. Edgard Lima did firmware/embedded Linux programming bringing up Linux for that clear hardware based on ATMEL AT91SAM9G45 equipped with a vast list of peripherals (DataFlash, RAM, NAND Flash, SRAM, Graphical LCD, touchscreen, smart card reader, GPRS, ethernet, USB, UARTS, and more).

Hipercard Billing as PDF in a Browser (Development)

Developed the first system capable of showing exactly to the call center support operators what the customers had printed in their hands. Before this system, operators saw the bills in an unformatted text as it was stored in the mainframe. The system improved the quality and speed of the call center operators to a next level.

SKILLS

Languages

C, Modern C++, XML, Java, Objective-C, Swift, Python, Dart

Frameworks / Libraries / APIs

GStreamer, Boost, Qt, GTK, Protobuf, DirectShow, Carbon, Django, Flutter

Tools

GDB, U-Boot, Valgrind

Paradigms

Concurrent Programming, Socket programming, Scrum

Platforms

Embedded Linux, Linux, Windows, Android, Mac OS, Raspberry, NodeMCU, Arduino

Misc

J1939, Multithreading, NMEA, Web Sockets, CAN Bus, Image Processing, Unix Shell Scripting

Storage

JSON, SQLite, PostgreSQL, MySQL

EDUCATION

Master's degree in Computer Science

Federal Rural University of Pernambuco | UFRPE - Recife, Brazil
Algorithms and Distributed Systems ([Distributed van Emde Boas Tree](#))

2015 - 2017

Bachelor's degree in Computer Science

Federal University of Pernambuco | UFPE - Recife, Brazil

1997 - 2002