

## Resume

# Edwin Cordeiro

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Portuguese and Brazilian • 40 Years old • Married

## Summary

Master Computer Engineer, specialized in Computer Networks, that loves to study and understand new technologies, specially in areas of audio and video streaming, computer architectures and networks, distributed systems, embedded systems, and chip manufacturing. Understanding inner workings is my biggest motivation, as this knowledge is key to identify key indicators necessary to guarantee the performance and reliability of products and services. Previous experiences also include distributed systems of a big cloud provider and content delivery network with analysis of big data sources, technical network evangelist teaching and motivating the usage of the IPv6 Protocol, contributor of the Internet Engineering Task Force (IETF) on the development and evaluation of internet protocols.

## Experience

- Since **Principal Performance and Site Reliability Engineer**, *Akamai Technologies*, Munich, Germany.
- June 2017 Performance evaluation and improvements for live and on demand media streaming, including the impact of encoding, compression, adaptative bit rate and transport protocols (TCP, UDP, QUIC) for video transmission over internet. Analysis of content delivery network (CDN) performance based on key performance metrics to increase QoS and prevent service disruptions to customers of a globally distributed infrastructure capable of supporting more than 10 Million simultaneous users in big events like the Olympics or the FIFA World Cup. Data analyst using Python on large datasets collected from production networks with complementary usage of open source solutions, like Hadoop, Grafana, Postgres and Clickhouse. Negotiation with multiple internal teams, like software development and product management, to enable early problem detection and fixes, as well to quickly decide paths to mitigate ongoing issues. Training and mentoring of new team members.
- May 2017 **Research Staff**, *Technical University Munich*, Munich, Germany.
- Nov 2014 Researcher at the Chair for Network Architectures and Services as part of my PhD studies with a scholarship from the German Academic Exchange Service (DAAD). Research of the state of the art of Routing Protocols (BGP, OSPF, ISIS), Network Quality of Service (QoS), Interface to the Routing System (I2RS), Software Defined Networks (SDN), software routing, virtual networks, network congestion detection and flow control. Research goal was to contribute to new methods of congestion avoidance.
- Nov 2014 **Senior Project Analyst**, *NIC.br*, São Paulo, Brazil.
- Jan 2012 IPv6 Evangelist at IPv6.br Project. Teacher at IPv6 courses for employees of Internet service and content providers. Development of didactic material, that became a published book. Research on IPv4 to IPv6 transition techniques and Network Security (firewall and encryption), including lab tests and contributions to IETF. Viability analysis of SDN to increase the capabilities of the Brazilian Internet Exchange Points (IXP.br).
- Sep 2011 **Field Application Engineer**, *Avnet*, São Paulo, Brazil.
- Jan 2008 Enablement of customer projects with Field-programmable Gate Array (FPGA), VHDL and Verilog. Support of customer projects using distinct processors architectures (ARM, x86 and digital signal processors (DSP)), programming languages (C/C++) and operating systems (Linux and Windows for embedded systems). Telecom customer projects were related to fiber optical transmission, like Fiber to the Home (FTTH) Gigabit Passive Optical Network (GPON) and wavelength division multiplexing (WDM) products. Industrial customer projects included DC motors, medical equipment, voice over IP (VoIP) and industrial programmable logic controller.

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- Nov 2007 **Field Application Engineer**, *PI Componentes*, São Paulo, Brazil.
- Nov 2006 Support and teaching customers about FPGA, ARM processors, GPS and GSM/GPRS, operating systems (embedded Windows and Linux) and programming languages (C/C++ and Java), to enable sales of electronic components.
- Oct 2006 **Trainee Software Developer**, *Innovatech Telecom*, Campinas, Brazil.
- May 2006 Development of a GSM Micro Base Station with GSM over VoIP, using ARM processors, uCLinux and C/C++. Worked with SIP and RTP protocols. Customization of the Linux kernel and device drivers to achieve high performance on a limited embedded system.
- Apr 2006 **Hardware Developer - Scientific Initiation**, *Brazil-IP Project*, Campinas, Brazil.
- Jan 2005 Development of an MP3 decoder ASIC chip, with FPGA prototyping. The prototype for MP3 audio and MPEG-4 video decoding was presented in 2005 SBCCI Congress, Florianópolis, Brazil.

## Education

- On hold 2015 **Technical University Munich**, *Doctor of Engineering, Network Architectures and Services*, Munich, Germany.
- 2014 2011 **Instituto de Pesquisas Tecnológicas**, *Master of Engineering, Computer Networks*, São Paulo, Brazil.
- 2006 2002 **Universidade Estadual de Campinas**, *Bachelor of Engineering, Computer Engineering*, Campinas, Brazil.

## Publications

- 2015 **RFC 7703 – Experience from MAP-T Testing**, *IETF*, Author.  
Test results of a network that uses MAP-T dual translation technique. Overview of user applications' behavior with a shared IPv4 address.
- 2015 **Laboratório de IPv6**, *IPv6.br Project*, Coauthor.  
IPv6 teaching through the use of network emulators. It explains basic concepts, like Neighbor Discovery Protocol, application configuration, WEB servers and proxy, security considerations, firewall and DoS attacks, and IPv4 to IPv6 transition techniques.

## Languages

- |                                     |                              |
|-------------------------------------|------------------------------|
| English: Bilingual proficiency (C2) | Portuguese: Native speaker   |
| German: Good knowledge (B2)         | Spanish: Good knowledge (B2) |

## Skills & Knowledge

- |                               |                                       |
|-------------------------------|---------------------------------------|
| Computer Networks             | Processors and Microprocessors        |
| Big Data                      | Embedded Systems and FPGA             |
| Programming Languages         | Operating Systems                     |
| Content Distribution Networks | Video Streaming                       |
| Large Distributed Systems     | Key Performance Indicators            |
| Technical Evangelist          | Value proposition and Demand Creation |

## References

Available Upon Request

## Interests and Hobbies

- |                                |                         |
|--------------------------------|-------------------------|
| Learning languages             | Studying other cultures |
| Learning how technologies work | Judo                    |
| Embedded Systems               | Video games             |