Martín Varela

Senior SW Engineer
R&D Specialist

👤 CAREER PROFILE

I am an seasoned professional, with over 17 years experience. I have participated in and led a large number of large-scale R&D projects. I deliver consistently high-quality results, both in terms of scientific output, and software.

I am looking for a position that would both leverage my skills (SW engineering, system architecture, stream processing, data analysis / modeling, data pipelines, networking), and provide a challenge and an opportunity to learn new things, and push me outside my comfort zone.

💼 RECENT WORK EXPERIENCE

Senior SW Engineer   Since 2018
callstats.io, Finland

I joined callstats.io to help them develop the Quality of Experience aspects of their WebRTC monitoring platform. My main duties include the design and implementation of new quality models and large-scale aggregation pipeline needed to feed them. The development part of the work is mostly done in Clojure and Java. I also developed a sophisticated WebRTC testbed based on Mininet and Selenium (mostly coded in Python).

Senior Systems Engineer   2017
EXFO, Finland

At EXFO, I worked on guiding the transition of its Service Assurance (SA) product line to virtualized environments. This work revolved around the virtualization of network probes and their associated support infrastructure, and their integration into NFV architectures, notably ETSI NFV MANO. There were also performance issues to be addressed, due to moving the probes from specialized hardware to a COTS-based cloud context.

Principal Scientist   2007 — 2017
VTT, Finland

I spent over ten years at VTT (first as a post-doc, then as a Senior Scientist, and later as a Principal Scientist). I was the lead for research in the Quality of Experience (QoE) domain. Besides the traditional work on quality assessment for media services, I have also worked on other aspects of QoE, most notably QoE management, and the business and economic aspects of QoE. Beyond my research on QoE, I did some work on Unified Communications, and Network Performance Monitoring. My duties ranged from purely scientific research (often involving prototypes of solutions to highly complex problems), to production-ready solution development for contract research projects.

🗔 SELECTED PROJECTS

Below is a short list of some of the projects I have worked on. For a full list, please refer to my **full CV**.

eMOS @ callstats.io

My work at callstats has focused on developing accurate and actionable metrics for Quality of Experience in WebRTC applications. WebRTC QoE being still an open problem in the state of the art, this work has meant our product is one of the most (possibly *the most*) innovative in this field. Beyond the research-related aspects of this project, I was in charge of implementing the results in our stream-processing pipeline, allowing real-time processing of huge volumes of WebRTC calls each minute.

ESA QuoTE - QoE for Telemedicine Applications

The QuoTe project was commissioned by the European Space Agency, to develop benchmarking and monitoring tools for video-based telemedicine systems. I was in charge of this project, and of the development of the QoE models required for its use cases (cardiac surgery, and outpatient follow-up), as well as the overall system architecture.

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↗ ResearchGate
↗ Full CV

EDUCATION

PhD. in Computer Science
Université de Rennes 1, France, 2002—2005

MSc. in Computer Science
Université de Rennes 1, France, 2001—2002

Computing Engineering
Universidad de la República, Uruguay, 1996—2001

LANGUAGES

Spanish (native)

English (professional)

French (professional)

Finnish (basic)

Portuguese (basic)

Swedish (basic)

INTERESTS

Cooking

Photography

Calligraphy

Celtic Plus QuEEN (Celtic-Plus Excellence Award for Services and Applications, 2016)

The QuEEN project developed a conceptual and operational framework for QoE modeling and monitoring. It was a large-scale project, with 21 partners across Europe and over 12M€ in funding. I was one of the proposers of the project, and I acted as Technical and Scientific coordinator. This project was highly successful, resulting in a number of commercial applications, over 100 scientific publications, and one ETSI Technical Specification for QoE monitoring.

Celtic Plus NOTTS

The NOTTS project dealt with the modeling and management of QoE for OTT services, with a focus on OTT video. I was responsible for the work package on QoE models and management, as well as being the project's scientific coordinator.

Nokia-Siemens Networks - Mobile Video

Between 2010 and 2012 I was responsible for a series of projects commissioned by NSN to study the network behaviour of a large number of OTT and managed mobile streaming services.

🚀 SKILLS & PROFICIENCY

I am familiar with a number of technologies, tools and programming languages. In my daily work, I use mostly Clojure, Java, R, Julia, and Python, plus a variety of other tools (git, LaTeX, unix tools, etc.). I also have experience with other languages, such as Datalog, Ruby, Haskell, C, SQL.

I have also worked with ML techniques (during my MSc and PhD work), using e.g, Random Neural Networks to model QoE.

Besides the technical skills, I am comfortable interfacing with customers, and I have excellent writing and presentation skills.

Skill	Level
R&D	████████████████████
QoE	████████████████████
Communication / Presentation	███████████████████
Systems Design / Architecture	██████████████████
SW Development	█████████████████
Clojure	█████████████████
DB Design	███████████████
Data Analysis / Modeling	███████████████
Ruby	███████████████
R	██████████████
Java	████████████
Julia	███████████
Haskell	███████████
Python	███████████