Martín Varela

R&D Specialist / Scientist
QoE Guy

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ResearchGate
Full CV
This résumé online

CAREER PROFILE

I am an seasoned and results-oriented R&D professional, with over 15 years experience. I have participated in and managed a large number of large-scale R&D projects, both commercial and academic, at the national and European levels. My main field of expertise is Quality of Experience (QoE), which deals with how users experience the services they use. QoE is a very multidisciplinary field, spanning several technical domains such as networks, media, cloud, and web, as well as human aspects, including business. I am also knowledgeable on a number of other topics, such as Data Analysis, Predictive Models, Network Performance (QoS), Network Function Virtualization (NFV), Software-defined Networks (SDN), and Network Management.

RECENT WORK EXPERIENCE

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 QoE domain, and was active in other domains such as QoS measurement / monitoring. 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 focus on QoE, I worked on Unified Communications (developing new mechanisms to manage presence), and Network Performance Monitoring (developing tools for e.g., passive QoS measurement, and vertical handover management).

Founder and CTO 2009
MOS4 Oy, Finland
In 2008, we started building a spin-off from VTT, aiming at developing a novel, avatar-based, teleconferencing system with high-quality VoIP and secure document sharing and storage as its key defining features. The company was founded in early 2009. I was responsible for the architecture of the system, as well as the voice and document sharing functionality, including implementation work.

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, or my website: http://martin.varela.fi.

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, and one ETSI Technical Specification for QoE monitoring.

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).

Celtic Plus NOTTS

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

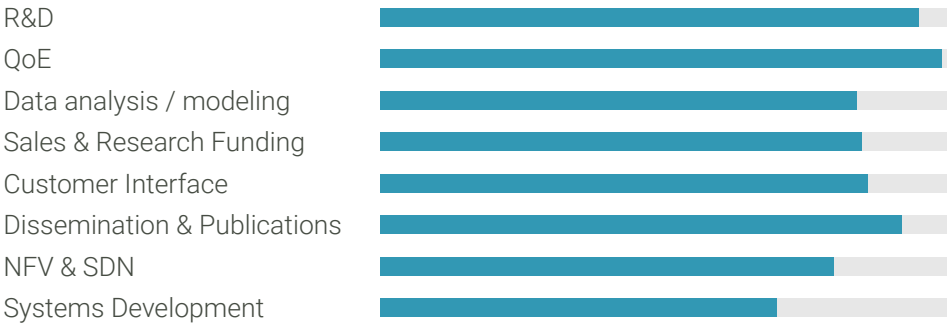
Cooking
Photography
Calligraphy

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 fluent in a number of technologies, tools and programming languages. In my daily work, I use mostly Ruby, git, R, C, Bash/Zsh, sed/awk, ex, Haskell, LaTeX, SQL, gnuplot, Clojure and other lisps. I've recently started using Julia for data analysis, too. I also have some experience in C++, Java, x86 and Sparc assembler, Python and Perl.



SELECTED PUBLICATIONS

Below is a small sample of my scientific publications. For a full list, please refer to my Full CV, or my website: http://martin.varela.fi.

Definition of QoE Fairness in Shared Systems
Tobias Hoßfeld, Poul Einar Heegaard, Lea Skorin-Kapov and Martín Varela
IEEE Communications Letters, vol. 21, no. 1, pp. 184-187. Jan. 2017

QoE Beyond the MOS: An In-Depth Look at QoE via Better Metrics and their Relation to MOS
Tobias Hoßfeld, Poul Einar Heegaard, Martín Varela and Sebastian Möller
Quality and User Experience 1(1):1-23, Springer. Jan. 2016

From Service Level Agreements (SLA) to Experience Level Agreements (ELA): The Challenges of Selling QoE to the User
Martín Varela, Patrick Zwickl, Peter Reichl, Min Xie and Henning Schulzrinne
In proceedings of IEEE ICC QoE-FI, London, UK. Jun. 2015

Meta-Modeling QoE - Towards a Generic Methodology for Building QoE Models
Martín Varela, Lea Skorin-Kapov, Frédéric Guyard and Markus Fiedler
PIK - Praxis der Informationverarbeitung und -kommunikation, 37(4):265-274. Oct. 2014

A Multi-Dimensional View of QoE: the ARCU Model
Lea Skorin-Kapov, Martín Varela
In proceedings of MIPRO 2012, Opatija, Croatia. May 2012

Challenges of QoE Management for Cloud Applications
Tobias Hoßfeld, Raimund Schatz, Martín Varela, Christian Timmerer
IEEE Communications Magazine, 50(4):28-36. Apr. 2012