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Shorbio

I am a Computer Scientist (PhD & Postdoc) interested in geometric Machine Learning (ML) for the next generation of immersive systems and graph-based data. My career can be seen threefold. In research, I worked on research Multimedia & ML projects, contributed to communities (Springer, [ACM SIGMM](#) and [SBC WebMedia](#)), and have been awarded research funding. In teaching, I co-supervised students, acted as a lecturer on under- and post-graduate courses, and organized workshops to promote student interest in public engagement. Last, I added value to the industry through open source and standards in TV forums ([ITU-T SG16](#) and [BR TV Forum](#)).

Experiences

Work.....

UCL, LASP Lab

Postdoc Researcher on ML project

2021–today

Highlights: ACM SIGMM committees and workshop organizer; co-supervised undergrad students.

- SpheryStream project funded by EPSRC to Improve 360-video streaming with profile-based methods

PUC-Rio, TeleMidia Lab

Postdoc Researcher on ML & Multimedia projects

2017–2020

Highlights: project PI; team leader; standards contributions; SBC WebMedia committees and workshop organizer (students for social impact); co-supervised under/postgrad students; postgraduate lecturer assistant.

- [VideoMR](#) project, funded by Microsoft & RNP to detect inappropriate content in video scenes;
- AML (Anti-Money Laundry) project, funded by BTG Bank, to detect financial transactions risk and anomaly detection;
- [GT-RAP](#) project, funded by RNP, to develop a blockchain-based system for academic certificates.

Dynavideo, TV Division

Software engineer

2012–2012

Highlights: multiple awarded social impact projects.

- [Brasil4D](#) project, funded by World Bank, to transmit interactive TV content with social features to low-income families. Its results were published in a [public report](#)

Education.....

PUC-Rio

PhD. in Informatics. Thesis on [Multimodal-multiuser support in multimedia scene descriptions](#) 2013–2017

Highlights: thesis concepts used in SBTVD standard; industry committees.

- [PUC-Rio Ginga](#), funded by PUC-Rio Software Licenses, to develop a reference implementation for TV manufacturers;
- SBTVD Conformance Test Suite project, funded by Brazilian Ministry of Science and Technology, to be used by TV manufacturers

UFPB

MSc. in Informatics. Thesis on [Multi-device support in TV app stores](#)

2010–2012

Highlights: thesis concepts used in the awarded Brasil4D project; undergraduate lecturer; project leader

- [GingaStore](#), funded by RNP, to design a broadband system to deliver TV applications;
- [Art TVDI](#), funded by RNP, to design agile methods for TV applications development;

UFPB

BSc. in Computer Science. Final report on [Component-based architecture for TV middleware](#) 2005–2009

- [Ginga CDN](#), funded by RNP, to develop reusable TV middleware components.
- Tutor on Analysis and design of Algorithms;
- Part-Time software developer at Dynavideo [TV Division](#) to prototype TV software in ST boards.

Research

Publications.....

Google Scholar shows >40 published papers, >100 citations, h-index 6. See below recent and some selected publications.

Elsevier Book Chapter 2022

ACM Multimedia Systems. 2022

Springer Journal on Multimedia Tools and Applications. 2016, 2020

IEEE Symposium on Multimedia (ISM). 2020

SBC WebMedia 2020, 2020, 2020, 2021, 2021, 2021

ACM Symposium on Document Engineering. 2019

IEEE Multimedia Signal Processing. 2019

Committees.....

ACM, Special Interest Group on Multimedia

Reviewer and chairing 2020-today

- Multimedia conference: reviewer (2022), area chair (2022), reproducibility chair (2023)
- Multimedia Systems (ACM MM): MMVE review (2021, 2022, 2023) and demo chair (2022)
- Immersive Experiences (ACM IMX) conference: reviewer (2022) and area chair (2022)
- QoMex conference (ACM QoMEX): reviewer (2023)

BR Computing Society (SBC), Web&Mulimedia Commitee

Steering Committee 2021-today

Reviewer and chairing 2017-today

- WebMedia conference reviewer (2017-today), chair of Undergrad workshop (2018), chair of Demos Workshop (2019-2022), and chair of Social Impact Workshop (2019-2022)

Springer

Reviewer 2022-today

- Journal of Multimedia Tools and Applications: reviewer (2022, 2023)
- Iberoamerican Conference on TV Applications and Usability: reviewer (2020, 2021, 2022)

Brazilian TV Forum (SBTVD)

Academic member at Technical Module contributing to TV middleware standards 2017-2021

International Telecommunication Union (ITU)

Academic member at SG-16/Q13 contributing to IPTV middleware standards 2017-2021

Teaching

UCL

Co-supervise undergrad engineering projects. 2022-today

SBC WebMedia

Organizer of students workshop to promote Social Impact research. 2018-2022

PUC-Rio

Invited Lecture on ML for Multimedia to postgrad students (>30) 2019

Lecturer on TV development to undergrad students (>30). 2013

Japan International Cooperation Agency

Lecturer and course design on TV development to South American countries professionals (>30) 2012

RNP ESR

Lecturer on Linux Administration to IT professionals (>30) 2011

UFPB

Lecturer and course design on Programming Introduction (C language) to undergrad students (>15) 2010

Funding & Awards

Microsoft&RNP

Approved as PI in VideoMR project 2019

ACM

SIGMM Travel Award for MMSys 2022

SIGHI Gary Marsden Travel Award for IMX 2022

SIGWeb Travel Award for DocEng 2019

Multiple TV associations

FRIDA Innovative TV technological solutions award for Brasil4D project 2014

SET Conference award on Best TV interactivity solution for Brasil4D project 2013

PremioTV on Innovation and Creativity for Brasil4D project 2013

ITU

IPTV Application Challenge User-friendliness for GingaStore project 2012

Skills

Academic: Execute research agenda. Scientific and standard writing.

Teaching: Course design. Presentation skills.

Programming: Python, TensorFlow, Bash, C++, Lua, Java, JavaScript, Latex, Docker.

Social: Good and empathic communication. Positive, make-it-happen, teamwork, lead-by-example attitudes.

Languages: Portuguese (mother tongue), English (fluent), and Spanish (fluent).

Training

UCL

Data Protection for Researchers; Fundamentals in Research Funding. 2022-2023

Nature

Interpreting Scientific Results; Focus on Peer Review. 2022-2023

ITU

ITU-T A.1: Working Methods of ITU-T Study Groups 2023

References

- Laura Toni, l.toni@ucl.ac.uk. Postdoc supervisor at UCL.
- Simone DJ Barbosa, simone@inf.puc-rio.br. PhD supervisor at PUC-Rio.
- Marcelo Moreno, moreno@ice.ufjf.br. ITU SG-16/Q13 and SBTVD collaborator.
- Roberto Azevedo, roberto.azevedo@disneyresearch.com. TeleMidia collaborator.