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Shorbio

I am a Computer Scientist (PhD & Postdoc) interested in geometric Machine Learning (ML) for the next generation of immersive and multimedia systems. My career can be seen threefold. In research, I worked in research projects on Multimedia & ML and contributed to its community (Springer, ACM SIGMM and SBC WebMedia). In industry, some done research was transferred through opensource and standards at TV forums (ITU-T SG16 and BR TV Forum). And 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.

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 transctions 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 project.

- 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 reference implementation, funded by PUC-Rio Software Licenses to TV manufacturers;
- From SBTVD Conformance Test Suite for 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

- GingaAppStore, 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 >50 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 (Ginga Brasil, Funded by RNP) 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

Funding

Microsoft&RNP
Approved as PI in VideoMR project *2019*

Awards

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	*2012*

Skills

Academic: Execute research agenda. Scientific and standard writting.

Teaching: Course design. Presentation skills.

Programing: 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.