Vinícius de Paulo Souza Ribeiro

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ACADEMIC EDUCATION

Ph.D. Candidate - University of Lorraine, Loria *2020-On Going*
Computer Science, Machine Learning, Speech Production

Thesis title: *Deep supervision of the vocal tract shape for articulatory synthesis of speech*

Extra-curricular activities:

- 12th Lisbon Machine Learning School - Instituto Superior Técnico, Lisboa, Portugal (July 2022)
- 4th International School on Deep Learning - Università Politecnica delle Marche, Universitat Rovira i Virgili & IRDTA, Las Palmas de Gran Canaria, Spain (July 2021)

Master of Science - University of Campinas *2017-2019*
Electrical Engineering, Machine Learning, Deep Learning

Dissertation title: *The Impact of Annotation Quality on Deep Learning for Skin Lesion Segmentation*

Extra-curricular activities:

- Summer School on Data Science for Document Analysis and Understanding - La Rochelle Université & Inria, France (July 2019)

Bachelor of Science - University of Campinas *2017-2019*
Electrical Engineering

Extra-curricular activities:

- Software Engineering Internship - Motorola Mobility, Jaguariúna, Brazil (2015 - 2016)
- Linear Analysis Lab Teaching Assistant - University of Campinas, Campinas, Brazil (1S2015)
- Academic Internship - Czech Technical University, Prague, Czech Republic (Jan - Feb 2015)
- Academic Internship - University of Campinas, Campinas, Brazil - Funded by PIBITI/CNPq (2014 - 2015)
- President of 3E Unicamp - Junior Enterprise, Campinas, Brazil (2013)

PUBLICATIONS

Accelarating the Centerline Processing of Vocal Tract Shapes for Articulatory Synthesis
Romain Karpinski, Vinicius Ribeiro, Yves Laprie
October 2022, To appear in ICA 2022

Autoencoder-Based Tongue Shape Estimation During Continuous Speech
Vinicius Ribeiro, Yves Laprie
September 2022, To appear in Interspeech 2022

Automatic Generation of the Complete Vocal Tract Shape from the Sequence of Phonemes to be Articulated
Vinicius Ribeiro, Pierre-André Vuissoz, Karyna Isaieva, Justine Leclere, Yves Laprie
April 2022, Speech Communication

Towards the Prediction of the Vocal Tract Shape from the Sequence of Phonemes to be Articulated
Vinicius Ribeiro, Karyna Isaieva, Justine Leclere, Pierre-André Vuissoz, Yves Laprie
September 2021, Interspeech 2021

Less is More: Sample Selection and Label Conditioning Improve Skin Lesion Segmentation
Vinicius Ribeiro, Sandra Avila, Eduardo Valle
June 2020, ISIC Skin Image Analysis Workshop @ CVPR 2020

Handling Inter-Annotator Agreement for Automated Skin Lesion Segmentation
Vinicius Ribeiro, Sandra Avila, Eduardo Valle
June 2019, arXiv e-prints

LANGUAGES

Portuguese	Native
English	Fluent
French	Intermediate

TECHNICAL SKILLS

Programming	Python
Machine Learning	Pytorch, Scikit Learn, Numpy
Cloud Computing	Amazon Web Services, Google Cloud Platform
Databases	SQL, NoSQL, Graph DBs

PROFESSIONAL EXPERIENCES

Loria October 2020 - current
Doctoral Researcher *Nancy, France*

· PhD Candidate at the Multispeech research team at Loria, under the supervision of Dr. Yves Laprie. My research is focused on machine learning methods for articulatory speech synthesis. I specifically work with the vocal tract shape estimation during continuous speech. The techniques I am using are autoencoders and recurrent neural networks.

Meta AI August 2022 - December 2022
Research Scientist Intern *New York, USA*

· As a Research Scientist Intern in the AI Speech Team, I explored the field of wake word detection and the different approaches to handle the phonetic alignment for these models. I compared the two traditional techniques, alignment-based and alignment-free, and proposed a hybrid alignment, that mixes the two. My experiments showed alignment-free training outperforms alingment-based for lower FAh levels, while the opposite happens on higher FAh levels. Moreover, when trained with the correct aligned-to-unaligned ratio, the proposed hybrid system obtains the best of the two worlds.

Dasa & Nexa Digital October 2018 - October 2020
Data Science Specialist *São Paulo, Brazil*

· I joined Nexa Digital in October 2018 to help to build the data team. Our goal was to structure the data in thousands of medical records in PDF. My work included developing the data infrastructure, building the high-performance data systems and pipelines, and developing the machine learning and deep learning models to understand the information available in the PDF file.

· In 2019, the company was acquired by Dasa, the 5th largest medical diagnosis company in the world. I started working at the company's innovation lab with radiology images. Our goal was to improve the clinical daily tasks and the patient's lives with artificial intelligence, mainly with deep neural networks.

iFood & Rapiddo Delivery November 2017 - October 2018
Data Science & Analytics *São Paulo, Brazil*

- I joined Rapiddo Delivery in a trainee program organized by its investor, Movile. The company provided a smart, fast, and safe platform to get anything delivered from one place to another. As part of the Data & Analytics team, I was responsible for designing models, developing services for data collection and analysis and integrating the services with our platform. My main contribution was working on a dynamic pricing model that allowed the company to have a positive margin for the first time.
- In 2018, Rapiddo was acquired by iFood, the leader in online food delivery in Brazil. After the M&A, I worked as a data scientist in the logistics team. I also had the opportunity to lead and launch our mPOS system, one of our most strategic projects for the year of 2018. I was responsible for dealing with suppliers, the tech team, and other stakeholders. As a result, I was the main responsible for increasing our demand by 30% in all cities we launched.

Eldorado Research Institute May 2016 - November 2017
Junior Software Engineer *Campinas, Brazil*

- At Eldorado, I worked at an international project for Motorola Mobility. We were responsible for developing software automation tools to help the engineering teams to be more productive. As a software engineer, I worked mainly with Python at a team with people from the US, Brazil, and India.