

# Luiz Guilherme Kasputis Zanini

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EDUCATION	<b>École de Technologie Supérieure (ÉTS) (Montreal, QC, Canada)</b> Aug 2024 - Aug 2028 PhD in Engineering, specializing in Multimodal Learning for Emotional Recognition Advisor: Prof. Alessandro Koerchi
	<b>University of São Paulo (São Paulo, SP, Brazil)</b> Feb 2022 - Aug 2024 M.Sc. in Electrical & Computer Engineering *Expected graduation date The University of São Paulo is the leading university in Latin America ( <b>85th</b> in the QS World University). <i>Programa de Bolsas Itaú</i> (PBI) Fellowship Thesis: Segmentation and classification of dental caries in cone beam computer tomography Advisor: Fátima de Lourdes dos Santos Nunes Marques GPA: 3.8/4.0 - Based in Scholaro
	<b>University of São Paulo (São Paulo, SP, Brazil)</b> Mar. 2018 - Dec. 2022 B.Sc. in Computer Engineering GPA: 3.12/4.0 - (7.8/10)
PUBLICATIONS	<b>Convolutional architectures with LSTM and TCN to embolism classification: exploring dependency between data</b> <u>Luiz Zanini</u> , Aldomar Silva, Felipe Almeida, Fátima Nunes, and Anna Costa. In Proceedings of the 19th National Meeting on Artificial and Computational Intelligence, November 28, 2022, Brazil. SBC, Porto Alegre, Brasil, 461-472. DOI: <a href="https://doi.org/10.5753/eniac.2022.227585">https://doi.org/10.5753/eniac.2022.227585</a> .
	<b>Identification and quantification of caries from CBCT segmented images</b> <u>Luiz Zanini</u> , Fátima Nunes, and Izabel Rubira-Bullen In Proceedings of the 23rd Brazilian Symposium on Computing Applied to Health, June 27, 2023, São Paulo/SP, Brazil. SBC, Porto Alegre, Brasil, 1-12. DOI: <a href="https://doi.org/10.5753/sbcas.2023.229376">https://doi.org/10.5753/sbcas.2023.229376</a>
	<b>A Systematic Review on Caries Detection, Classification, and Segmentation from X-Ray Images: Methods, Datasets, Evaluation, and Open Opportunities</b> <u>Luiz Zanini</u> , Fátima Nunes, and Izabel Rubira-Bullen Journal Imaging Inform Med. Published online March 1, 2024. <a href="https://doi.org/10.1007/s10278-024-01054-5">https://doi.org/10.1007/s10278-024-01054-5</a>
	<b>Segmentation and Classification of Dental Caries in Cone Beam Tomography Images using Machine Learning and Image Processing</b> <u>Luiz Zanini</u> , Fátima Nunes, and Izabel Rubira-Bullen In Proceedings of the 17th International Joint Conference on Biomedical Engineering Systems and Technologies - HEALTHINF, pages 428-435. DOI: <a href="https://doi.org/10.5220/0012365300003657">https://doi.org/10.5220/0012365300003657</a>
PROJECTS	<b>Final Paper undergraduate course - Poli Usp - Computer Engineer</b> Dez 2022 The project involved advanced manipulation of cone beam computed tomography (CBCT) data and image processing techniques to identify dental structures and lesioned regions. These results were integrated into software created within the Unity environment.
EXTENSION GROUP	<b>MaratonUSP - Programming marathon</b> Ago 2018 – Nov 2019 The group aims to solve problems with a stronger theoretical focus using algorithms typical of Programming Marathons, with practical approaches to topics such as Dynamic Programming, Data Structures, and Graphs.
HONORS	<b>Best Final Paper of the Computer Engineering Poli - USP 2022</b> The final project involved using image processing for segmentation and machine learning to classify the intensity of caries, as well as incorporating virtual reality for result visualization.
	<b>Second place for best paper in the undergraduate category at the National Meeting of Ar-</b>

## **tificial and Computational Intelligence (ENIAC)**

The research focused on image classification in computed tomography for pulmonary embolism classification, leveraging convolutional architectures with LSTM and TCN modules.

### **WORK**

**Ada Tech, São Paulo, SP**

Set 2021 - Jan 2022

#### **Data Science Intern**

- Data modeling in DynamoDB and MySQL, data insertion via AWS services (Lambda, SQS, and S3)
- Data visualization using Amazon QuickSight
- Developing a machine learning models

**Stefanini Scala, São Paulo, SP**

Jan 2021 - May 2021

#### **Data Science Intern**

- Participation in a project using genetic algorithms
- Involvement in MILP problems using tools like CPLEX, Pulp, and Coin CBC
- Querying and formatting an SQL database with Sparky

**Taqtile, São Paulo, SP**

May 2020 - Dec 2020

#### **Software Develop Intern**

- Mobile front-end developer.
- Worked with React Native and Apollo GraphQL.

### **CODING**

**Python, PyTorch, TensorFlow, Unity, Amazon, C/C++, LaTeX, Git**

Proficient

### **CERTIFICATES**

AWS Certified Cloud Practitioner

June 2022

AI for Medicine - Deep Learning AI

Fev 2022

Especilization in Deep Learning - Deep Learning AI

Jun 2021

### **LANGUAGES**

**English**      Fluent

**Portuguese**    Native

**Spanish**        Intermediary