

Luiz Guilherme Kasputis Zanini

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EDUCATION

University of São Paulo (São Paulo, SP, Brazil)

Fev 2023 - May 2024*

M.Sc. in Electrical & Computer Engineering

*Expected graduation date

Graduate school record - Five disciplines required in Master's Degree

- Deep Learning for Image Processing (Grade **A**)
- Pattern Recognition (Grade **A**)
- Scientific Research Methodology in Computer Engineering (Grade **A**)
- Virtual Reality, Augmented Reality, and Metaverses applied to Health, Education, and Entertainment (Grade **A**)
- Special Topics in Data Science and Big Data (Grade **B**)

GPA: 3.84/4.0

The University of São Paulo is the leading university in Latin America (**85th** in the QS World University).

Programa de Bolsas Itaú (PBI) Fellowship

Thesis: Segmentation and classification of dental caries in cone beam computer tomography

Advisor: Fátima de Lourdes dos Santos Nunes Marques

University of São Paulo (São Paulo, SP, Brazil)

Mar. 2018 - Dec. 2022

B.Sc. in Computer Engineering

GPA: 3.24/4.0 - (8.1/10)

PUBLICATIONS

Identification and quantification of caries from CBCT segmented images

Luiz Zanini, Fátima Nunes, and Izabel Rubira-Bullen

In Proceedings of the 23rd Brazilian Symposium on Computing Applied to Health, June 27, 2023, São Paulo/SP, Brasil. SBC, Porto Alegre, Brasil, 1-12. DOI: <https://doi.org/10.5753/sbcas.2023.229376>

Convolutional architectures with LSTM and TCN to embolism classification: exploring dependency between data

Luiz Zanini, Aldomar Silva, Felipe Almeida, Fátima Nunes, and Anna Costa.

In Proceedings of the 19th National Meeting on Artificial and Computational Intelligence, November 28, 2022, Campinas/SP, Brasil. SBC, Porto Alegre, Brasil, 461-472. DOI: <https://doi.org/10.5753/eniac.2022.227585>.

Caries detection, classification and segmentation from X-ray images: methods, datasets, evaluation and open opportunities

Luiz Zanini, Fátima Nunes, and Izabel Rubira-Bullen

Manuscript submitted for publication in the journal.

PROJECTS

Final Paper undergraduate course - Poli Usp - Computer Engineer

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

MaratonUSP - Programming marathon

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

Best Final Paper of the Computer Engineering Poli - USP 2022

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.

Second place for best paper in the undergraduate category at the National Meeting of Artificial 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 SKILLS

Python, PyTorch, TensorFlow, Unity, Amazon, C/C++, LaTeX, Git
AWS Certified Cloud Practitioner

Proficient
June 2022

CERTIFICATES

AI for Medicine - Deep Learning AI

Fev 2022

Especilization in Deep Learning - Deep Learning AI

Jun 2021

LANGUAGES

English Fluent
Portuguese Native