Luiz Guilherme Kasputis Zanini

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EDUCATION

École de Technologie Supérieure (ÉTS) (Montreal, QC, Canada) Sep. 2024 - Sep. 2028
Ph.D. in Engineering, specializing in Multimodal machine learning with applications on affective computing
Advisor: Prof. Alessandro Lameiras Koerich
Co-Advisor: Prof. Éric Granger

University of São Paulo (São Paulo, SP, Brazil) Feb. 2022 - Jul. 2024
M.Sc. in Electrical & Computer Engineering
The University of São Paulo is the leading university in Latin America
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
GPA: 3.8/4.0 - Based in Scholaro

University of São Paulo (São Paulo, SP, Brazil) Mar. 2018 - Dec. 2022
B.Sc. in Computer Engineering
GPA: 3.12/4.0 - (7.8/10)

PUBLICATIONS

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, Brazil. SBC, Porto Alegre, Brasil, 461-472. DOI: https://doi.org/10.5753/eniac.2022.227585.

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, Brazil. SBC, Porto Alegre, Brasil, 1-12. DOI: https://doi.org/10.5753/sbcas.2023.229376

A Systematic Review on Caries Detection, Classification, and Segmentation from X-Ray Images: Methods, Datasets, Evaluation, and Open Opportunities
Luiz Zanini, Fátima Nunes, and Izabel Rubira-Bullen
Journal Imaging Inform Med. Published online March 1, 2024. https://doi:10.1007/s10278-024-01054-5

Segmentation and Classification of Dental Caries in Cone Beam Tomography Images using Machine Learning and Image Processing
Luiz Zanini, 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: https://doi:10.5220/0012365300003657

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.

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 **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