

# Luan Carlos de S. M. Ozelim

CIVIL ENGINEER · STATISTICAL ANALYSIS EXPERT · DEEP LEARNING ENTHUSIAST · D.Sc.

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Profile

## Summary

Has a B.Sc. degree in Civil Engineering and a Doctoral Degree in Geotechnical Engineering (GE) from the University of Brasília (UnB). Besides, has been granted three post-doctoral fellowships (2 finished and 1 active) to study GE at such university, where he currently holds a Full Research Collaborator position and carries out a number of GE research activities. Besides his ongoing post-doctoral fellowship at UnB, is also currently carrying out another post-doctoral research at the Aeronautics Institute of Technology (ITA), São José dos Campos, Brazil. His areas of interest encompass Statistical Analysis, Mathematical Statistics, Deep Learning and Data Science. Has published papers addressing issues on Civil Engineering (Hydraulics, Geotechnical and Geo-environmental Engineering), Pure and Applied Mathematics and Statistics, Network Engineering, Theoretical Computer Science and Biomedicine. Mostly, his studies are related to the application of mathematical, statistical and computational tools to the modeling of experimental data and physical phenomena, specially by using Statistical and Machine Learning techniques. Recently, has been part of a R&D team working on the monitoring of Dams using acoustic measurements and Deep Learning techniques. Has been recently recognized by the Coordination for the Improvement of Higher Education Personnel (CAPES) as the youngest student to obtain a doctoral Degree in Brazil (22 years, 1 month and 6 days), among all the areas of study. Has also worked as a Civil Engineer at the Federal Senate of Brazil since 2014, with more than 8 years of experience with the design and the management of Civil Engineering works.

## Education

### University of Brasília

Brasília, Brazil

POSTDOCTORAL FELLOWSHIP IN GEOTECHNICAL ENGINEERING

Jun. 2022 - May. 2023 (current)

- Got a Senior Scholarship from the National Council for Scientific and Technological Development (CNPq) to carry out his studies.

### Aeronautics Institute of Technology

São José dos Campos, Brazil

POSTDOCTORAL FELLOWSHIP IN AERONAUTICAL INFRASTRUCTURE ENGINEERING

Jul. 2022 - Jun. 2023 (current)

- Is carrying out his studies voluntarily.

### University of Brasília

Brasília, Brazil

POSTDOCTORAL FELLOWSHIP IN GEOTECHNICAL ENGINEERING

Jul. 2018 - Jul. 2019

- Got a Scholarship from the National Council for Scientific and Technological Development (CNPq) to carry out his studies.

### University of Brasília

Brasília, Brazil

POSTDOCTORAL FELLOWSHIP IN GEOTECHNICAL ENGINEERING

Nov. 2016 - Oct. 2017

- Got a Scholarship from the National Council for Scientific and Technological Development (CNPq) to carry out his studies.

### University of Brasília

Brasília, Brazil

D.Sc. IN GEOTECHNICAL ENGINEERING

Aug. 2012 - July. 2014

- Got a Scholarship from the Coordination for the Improvement of Higher Education Personnel (CAPES) to carry out his studies.
- Got a Grade Point Average (GPA) of 5.0/5.0

### University of Brasília

Brasília, Brazil

B.Sc. IN CIVIL ENGINEERING

Aug. 2008 - July. 2012

- Got several Scholarships from the Ministry of Education (MEC) National Council for Scientific and Technological Development (CNPq) and University of Brasília (UnB) during his undergraduate studies.
- Got a Grade Point Average (GPA) of 4.72/5.0

## Work Experience

### University of Brasília

Brasília, Brazil

FULL RESEARCH COLLABORATOR

May. 2020 - May. 2025

- Co-advised one student on his Master thesis in Geotechnical Engineering
- Co-advised two students on their Doctoral dissertations in Geotechnical Engineering
- Research topics include: numerical, statistical and mathematical modelling of experimental data; machine learning and big data; deep learning; constitutive modelling

### University of Brasília

Brasília, Brazil

JUNIOR RESEARCH COLLABORATOR

Nov. 2015 - Dec. 2019

- Co-advised one student on his Master thesis in Geotechnical Engineering
- Co-advised one student on his Bachelor thesis in Geotechnical Engineering
- Research topics included: numerical, statistical and mathematical modelling of experimental data; 3d printing, machine learning and big data

## University Center of Brasília (UnICEUB)

ASSOCIATE PROFESSOR

- Taught Calculus 1, Calculus 3, Linear Algebra, Physics 1 and Soil Mechanics 1
- Co-advised one student on his Bachelor thesis in Geotechnical Engineering

Brasília, Brazil

Ago. 2014 - Dec. 2015

## Federal Senate of Brazil

LEGISLATIVE ANALYST - CIVIL ENGINEERING

- Worked as a Project Manager for several engineering/architectural designs
- Worked as a Maintenance Engineer, focusing on Civil Engineering issues
- Worked as a Civil Engineering designer. The designs included urban drainage, slope stability and retaining walls design, pavement design, structural design, among others
- From July 2021 until today is the Coordinator of the Coordination of Infrastructure Designs and Works
- From April 2020 until July 2021 was an Assistant Manager at the Coordination of Infrastructure Designs and Works
- From September 2019 until April 2020 was the Chief of the Civil Maintenance Unit
- From March 2019 until September 2019 was the Director of the Infrastructure Department. This area is responsible for all the Engineering and Architecture designs and works of the Federal Senate of Brazil
- From June 2017 until March 2019 was the General Coordinator of the Infrastructure Department, which is equivalent to a Vice-Director position. This area is responsible for all the Engineering and Architecture designs and works of the Federal Senate of Brazil
- From October 2015 until June 2017 was the Coordinator of Maintenance, which was responsible for the Maintenance of all the Built Complex of the Senate with respect to all the Engineering subjects (Civil, Electrical and Mechanical)
- From June 2014 until October 2015 was the Chief of the Civil Maintenance Unit

Brasília, Brazil

May. 2014 - Present

## Reviewing & Publishing

### Editorial Roles

ACADEMIC EDITOR

- Is part of the editorial board of PLoS One

Journals

2023 - Present

### Academic Reviewing

REVIEWER

- Is part of the board of reviewers of several International journals, namely: PLoS One, the International Journal of Geomechanics (ASCE), Entropy, Patterns, GEOSYNTHETICS INTERNATIONAL, Structural Control and Health Monitoring, Symmetry, CHEMBIOENG REVIEWS, Mathematics, Sustainability, Frontiers Of Structural And Civil Engineering, Advanced Studies in Contemporary Mathematics (Kyungshang), Alexandria Engineering Journal, REM - INTERNATIONAL ENGINEERING JOURNAL, Scientia Iranica, European Journal of Soil Science, Journal of Zhejiang University SCIENCE A, Flow Measurement and Instrumentation, Engenharia Sanitária e Ambiental, Energies, and Axioms
- Is a reviewer of scientific documents for the Zentralblatt MATH and Mathematical Reviews (AMS) databases

Journals & Databases

2011 - Present

### Academic Publications

AUTHOR & CO-AUTHOR

- Has published 51 academic papers in high impact journals. These are presented below.
- Also published 4 book chapters and 20 peer-reviewed full papers on the proceedings of national and international conferences. For simplicity, these publications will be omitted.

Journals & Proceedings

2010 - Present

## References

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- Domingues, V. R., Ozelim, L. C. d. S. M., Assis, A. P. d., & Cavalcante, A. L. B. (2022). Combining numerical simulations, artificial intelligence and intelligent sampling algorithms to build surrogate models and calculate the probability of failure of urban tunnels. *Sustainability*, *14*(11). <https://doi.org/10.3390/su14116385>
- Ferrari de Campos, D. J., Ozelim, L. C. d. S. M., Cavalcante, A. L. B., Silva, C. M., & Camapum de Carvalho, J. (2022). Execution energy of continuous flight auger piles as an assessment tool to evaluate the mechanical response of the soil mass. *Soil & Rocks*, *45*(2), e2022000622. <https://doi.org/10.28927/SR.2022.000622>

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