

Curriculum Vitae

José Roberto Tello Ayala

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EDUCATION

Doctor of Philosophy (Ph.D.), Applied Mathematics

Harvard University

Ongoing since August 31 of 2022. Expected graduation: May 25 2028

Bachelor's degree in Science, Applied Mathematics

Instituto Tecnológico Autónomo de México

Obtained a 60% scholarship.

Graduated with honors by acquiring a special mention thanks to my thesis titled: "A study concerning the Chebyshev Center problem in finite-dimensional normed vector spaces" under the supervision of Dr. César García-García.

From August of 2015 to December of 2019.

High School and Middle School

Colegio Marymount Cuernavaca

Graduated Cum Laude.

From August of 2009 to June of 2015.

RESEARCH & WORK EXPERIENCE

Research Assistant

National Institute of Public Health (INSP, Instituto Nacional de Salud Pública), based in Cuernavaca Morelos, Mexico.

I utilize statistics and data science solutions to provide insights into public health policies in Mexico targeted at obesity and diabetes.

From February of 2022 until July 31 of 2022.

Business Intelligence Manager

Media Maker Group, based in Cuernavaca Morelos, Mexico.

I implement machine learning, optimization, and data science solutions to improve Out-Of-Home advertisement selection utilizing geo-referenced data.

From September of 2021 until June 30 of 2022.

Research Assistant

Test and Contain, a project originated at the University of Oxford and the San Luis Potosí Institute of Scientific Research and Technology in Mexico.

I worked on designing mechanisms for testing and safely opening Mexican universities during the ongoing COVID-19 pandemic, based on multi-objective optimization, reinforcement learning, and information theory approaches.

From June of 2021 to January of 2022.

Bachelor's Thesis

My dissertation "A study concerning the Chebyshev Center problem in finite-dimensional normed vector spaces" is about geometry, approximation theory, and optimization on Banach spaces, focusing on the Chebyshev Center problem and its applications and with an emphasis on finite-dimensional spaces.

Defended my thesis on December 9 of 2020.

First place in the XXVI Research Congress CUAM-ACMor.

CUAM highschool and the Academy of Science of Morelos.

The project was titled: "¿Qué agua pasa por mi casa?: Un estudio a la calidad del agua en una misma ruta del sistema de distribución municipal de agua potable en la ciudad de Cuernavaca, Morelos." The research consisted in determining the quality of tap water through sampling, by checking if the quality of the water diminished as it was further away from the source.

Awarded on April 24 of 2015.

PUBLICATIONS

Optimal Testing and Containment Strategies for Universities in Mexico amid COVID-19

Authors: Luis Benavides-Vázquez, Héctor Alonso Guzmán-Gutiérrez, Jakob Jonnerby, Philip Lazos, Edwin Lock, Francisco J. Marmolejo-Cossío, Ninad Rajgopal, and **José Roberto Tello-Ayala**.

Presented at the inaugural Association for Computing Machinery (ACM) conference on Equity and Access in Algorithms, Mechanisms and Optimization (EAAMO) 2021.

En defensa a nuestro derecho a pensar

Author: José Roberto Tello Ayala.

Published at “Posibilidad, Crítica y Reflexión”: Revista de Filosofía Nuestroamericana vol. 2. With this essay I achieved third place at the second international contest of philosophical essay (category A) titled: *Teach me to think: a reflection on the teaching of philosophy and the learning of philosophizing*

TEACHING EXPERIENCE

Instructor

Department of Statistics at ITAM

For two iterations of the course “Introduction to the R programming language”. Gave recitations for a total of nine hours for each course to fellow students.

During September of 2018 and January of 2019.

Teaching Assistant

Department of Mathematics at ITAM

For the course “Differential and Integral Calculus I” (MAT - 14100). Gave recitations for four hours each week.

During the Fall Semester of 2017 and Spring Semester of 2018.

TECHNICAL SKILLS

Programming languages: Python, Julia, R, Matlab, Java, and some C++.

Statistics: Time series analysis, sampling, regression analysis, Bayesian statistics, multivariate statistics, data visualization.

Numerical: Linear programming, operations research, unconstrained optimization, convex optimization, supervised learning, unsupervised learning, reinforcement learning, deep learning, database management.

Languages: Spanish (native), English (fluent), and French (conversational).

CERTIFICATIONS

• **Introduction to Computer Science and Programming Using Python** by the Massachusetts Institute of Technology (MIT) at *edX*.

Certificate: <https://courses.edx.org/certificates/936e9ae27f5b4e0b85219d2822791650>

• **SD1x: Software Development Fundamentals** by the University of Pennsylvania at *edX*.

Certificate: <https://courses.edx.org/certificates/762d37c1e8cd4a0abf1db7e0a83b38b9>

• **The Analytics Edge** by the Massachusetts Institute of Technology (MIT) at *edX*.

Certificate: <https://courses.edx.org/certificates/0efc69b321cf484c96c5686e9c08f1b3>

• **Machine Learning with Python-From Linear Models to Deep Learning** by the Massachusetts Institute of Technology (MIT) at *edX*.

Certificate: <https://courses.edx.org/certificates/4e4511ecb245446991f52384caccea8a>

• **CSMM.101x: Artificial Intelligence** by ColumbiaX, an online learning initiative of Columbia University in *edX*.

Certificate: <https://courses.edx.org/certificates/63696189f5d44010ad281f6ac5a9c39e>

• **CSMM.102x: Machine Learning** by ColumbiaX, an online learning initiative of Columbia University at *edX*.

Certificate: <https://courses.edx.org/certificates/20db68a36a404d68b69359631b960c8e>

• **Deep Learning Specialization** by *deeplearning.ai*, through Coursera.

Certificate: <https://coursera.org/share/d8e846322bbad692ef2e87886d150575>

• **Introduction to Databases MicroBachelors** by the New York University (NYU)

at edX.

Certificate: <https://credentials.edx.org/credentials/eae9609ea5414bd2b7d477423f086078/>

VOLUNTEERING

Volunteer

At Organización Juventud Utopía A.C.

From August of 2012 to June of 2015.