Emmanuel Avila Vargas

Physicist



About me

I am a physicist and student of a Master's degree in computer sciences. I consider myself as a very curious, creative, responsible and assertive person.

Contact

avilem.github.io



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esearch areas

Teaching (Basic and advanced Physics and Mathematics) • Data Analysis • Gravitation Computer Sciences • Probability and statistics • Artificial Intelligence.

nterests

Gravitation • Nuclear physics • Mathematics • Differential Geometry • Programming • Artificial intelligence • Web development • Technological innovation • Scientific outreach.

WORK EXPERIENCE

2021-2023

Asesor Externo Especializado en Matemáticas

SEJ · Guadalajara. 9

In this job position at Secretaría de Educación Jalisco (SEJ), I taught advanced math to elementary and middle school students, so they could be ready for contests and Math Olympiads in México



2023-Currently

Teaching Assistant

Tecnológico de Monterrey · Guadalajara 💡

Research and academic support to teachers and researchers.



STUDIES

2022 **F**

Bs. IN PHYSICS · CUCEI - Universidad de Guadala-

jara 🏛

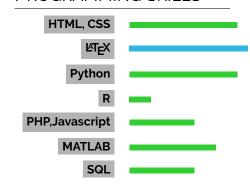
Guadalajara, Jalisco, MX

2023 M.C.

Ms. IN COMPUTER SCIENCE - TEC DE MONTERREY · m

Guadalajara, Jalisco, MX.

Programming skills



CERTIFICATIONS

2021

Introduction to Python programming

2023

Full-stack Developer from Liderly (TEC de Monterrey).

PAPERS

2023

Emission of spacetime waves from the partial collapse of a compact object, Journal of Mathematical Physics (AIP Publishing). DOI: https://doi.org/10.1063/5.0155046

LANGUAGES

English

B2 ^1 **TOEFL ITP Certification**

Deutsch Spanish A1 C2

Mother Tongue

TALKS

Oct. 2023

"El Universo sobre un caparazón", en: Evento de Puertas Abiertas IAM. Semana Mundial del Espacio en Guadalajara, Oct. 2023.

FINISHED PROYECTS

Fuentes.

2023 Signal processing in electromyography, I participated in several signal analysis tasks in a project for the School of Health and Medicine and the Cyber-physics system laboratory of Tecnológico de Monterrey, Campus Guadalajara. In charge of Dr. Rita

2023 Electric conductivity in a NaCl media, academic advisor for the project of the undergraduate student: Andrea Arroyo Terrón, at Universidad de Guadalajara (Jalisco, México).

Collaboration

Aug. 2021

Member of the Data
Analysis in Gravitational
Waves Group from
Guadalajara, Jalisco,
México. http://www.
gravitationalwaves.mx/
index.html

Jan. 2024

Member of the LSC (LIGO Scientific Collaboration).

CURRENT PROYECTS

About the correlation of the nuclear density and the velocity of electrons during Bremsstrahlung effect, academic advisor for the project of the undergraduate student: Alfred Maximiliano Espinoza Jiménez, at Universidad de Guadalajara (Jalisco, México).

2024 Parameter estimation of Core Collapse Supernovae using Markov Chain - Monte Carlo algorithms and LIGO data, Thesis project

2024 Bayesian model selection for Binary Black Hole gravitational waves approximants. Almost finished paper.