

KARLO JAIR GUEVARA DIAZ

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EDUCATION

Universidad de Guanajuato and CIMAT, Mexico

August 2018 - July 2023

Bachelor's degree in Mathematics with an average of 8.9/10. I focused my studies on computer science and statistics. I completed 40% of the courses for the master's degree in computer science at CIMAT while pursuing my bachelor's degree.

WORK EXPERIENCE

Internship in Implemental Systems

November 2022 - April 2023

My position was as a software developer. The most notable part was that I learned a programming language from scratch and used Power Platform to develop database management applications.

Software Developer in Implemental Systems

April 2023 - Present

I developed various applications using Power Platform, including design, development, and deployment. I studied Power BI, created Power BI reports, and also learned about Azure DevOps Server.

RELEVANT PROJECTS

Noise cleaning using neural networks

2022

I read the article 'Beyond a Gaussian Denoiser', implemented the neural network of the article which denoised images, and designed my own network. I compared the two networks (using a cluster to train them) and obtained better performance in my network in terms of convergence and consistency (I used Python, Keras, and Jupyter Notebook).

Research summer at CIMAT

2021

Studied the problem of resource distribution in pandemics. Managed to interpret the original problem, which was based on differential equations, as a statistical model (using Markov chains) to find a solution to the problem and determine an optimal distribution policy. (I used R, Julia, and Git)

RELEVANT COURSES FROM MASTER'S DEGREE

Statistical pattern recognition

2022

I applied different tools to analyze, visualize, and see relationships among real-world data. Some of them were PCA, ISOMAP, T-SNE, local linear embedding, self-organizing maps, spectral clustering, linear discriminant analysis, and neural networks (I used Keras, Pandas, Scikit-learn, Matplotlib, Python, and Jupyter Notebook).

Selected Topics of Machine Learning I and II

2022

I applied tools such as data augmentation, knowledge transfer, and backpropagation to improve their behavior. I also implemented models (using a cluster) such as "Pneumonia detection from X-ray images," "Brain tumor segmentation", CycleGAN, Pix2pix, VAE, U-NET, transformers, NeRF among others (I used TensorFlow, Keras, Matplotlib, Python, and Jupyter Notebook).

EXTRACURRICULARS

XV Industrial Problem Solving Workshop

2021

I was on a team of 15 people who solved a problem for a catalog sales company. My tasks are focused on cleaning, analyzing and applying visualization tools to our data. (This workshop was for graduate students. I used R and Excel).

SKILLS

Programming languages:

Python, R, C++, C, HTML, JavaScript, Julia, CSS

Programming Tools & Software:

GIT, Tensorflow, Pandas, Keras, Scikit-learn, Docker, Microsoft Power Platform, Virtual box