



# GONZ LEZ JUAN CARLOS

DATA ANALYSIS | PROFESSOR | GAME DESIGNER | RESEARCH

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## SUMMARY

As a software developer specializing in data science, data engineering, game development, and neuroscience. My skills are data analysis, game mechanics design, digital signal processing, pattern recognition, and behavioral analysis. I am enthusiastic about academia with a background in research and mentoring. This makes it possible to combine the fields of technology, science, and education to contribute to research, development, and teaching functions within the academic and technological sectors.

## LANGUAGES

**Spanish** Native

**English** Intermediate

## SKILLS

### Programming

Arduino, C++, F#, Java, Matlab, Python, R, SQL.

### Data

Anaconda, Hadoop, Jupyter Notebook, Mongo DB, MySQL, Pandas, PostgreSQL, Numpy, Spark, Scikit-learn.

### Biomedical Engineering

EEG, EMG, Signal Processing, BCI, fNIRs, Biomedical Instrumentation, Biofeedback, Microcontroller, Raspberry, Robotics.

### Cloud

AWS, Azure, Google Cloud, Spaces Git Hub, Stream Lite.

### Games

Blender, Godot Engine, Game Mechanics, Serious Games, Unity Engine, Unreal Engine.

### Software Development

Agile Methodology, Asana, Flask, Git, Linux, Microsoft Project, Networks, Office, Redhat, Requirements, Trello, UML, UI/UX, SCRUM.

## EDUCATION

- PhD Student in Computational Systems** 2023 – Present  
Universidad del Sur de Chiapas Tuxtla, Mexico
- Master's degree in Computer Engineering** 2009 – 2012  
Autonomous University of San Luis Potos  San Luis Potos , Mexico
- Bachelor's degree in Computer Systems Engineer** 2000 – 2005  
Technological Institute of San Luis Potos  San Luis Potos , Mexico

## EXPERIENCE

- Game Designer – IAGAMES** 2015 – Present, San Luis Potos , M xico
  - I collaborated with a team of 5 developers, the successful integration of the game mechanics.
  - I presented and developed game concepts, of which the company developed a pilot.
  - I contributed to level designs for puzzle games.
  - He supported the game's lead designer in developing new functionality.

- Professor** 2015 – Present, San Luis Potos , M xico  
**Universities**
  - JALA University
  - University of Advanced Technologies
  - Tec Milenio
  - UTEL
  - Universidad Tecnol gica el Reto o
  - Universidad Polit cnica de San Luis Potos 
  - Universidad Aut noma de San Luis Potos 

### Courses

- Analysis of Algorithms.
- Artificial Intelligence
- Creation Games
- Computational Theory
- Databases
- Digital Systems
- Probability
- Programming
- Project Management
- Quantitative Methodology
- Software Development,
- Research Methodology
- Research Seminar

### Goals:

- Teaching master classes to students in the areas of engineering, science, computing, art and design.
- Led the review of educational content standards, instructional curriculum, and student assessments.
- Comprehensive developed lesson plans that incorporate the latest research into the curriculum plan.
- Managed research projects and presentation of study results.
- I converted the assigned teaching program into interactive e-learning content.
- It instituted a system of learning assessment by increasing academic competence.



## CERTIFICATIONS

- ✓ CISCO CCNA I
- ✓ Google Data Analysis
- ✓ Programming Essentials in C++
- ✓ Data Science
- ✓ Database Administrator
- ✓ Server Administrator
- ✓ Unreal Engine
- ✓ Brain Machine Interfaces



## COURSES

- ✓ CISCO
- ✓ OOP in C#
- ✓ Neuroscience and NeuroImage
- ✓ Google Data Analysis
- ✓ Competences in Higher Academic
- ✓ Software Engineering
- ✓ Advanced Statistics for Data Sciences



## STRENGTHS

**Effective Communication** Able to boil down complex subjects to juniors. Ability to explain intricate research findings to both academic and non-academic audiences.

**Result-oriented** I always make sure my team is on the right path.

**Problem solving** Applied ML algorithms to solve complex data problems, ensuring improved model accuracy.

**Critical Thinking** Devised creative solutions to complex data problems, resulting in system efficiency.

**Creativity** I put all my creative effort into finding a solution.



## KEY ACHIEVEMENTS

- ✓ The best poster award first place Prof. Raul Monroy México, Mexican International Conference on Artificial Intelligence.
- ✓ Best Research Project of the Master Students of the UASLP



## PASSIONS

**Cycling** I like to unwind by exploring new routes on my bicycle during weekends.

**Neurosciences** I enjoy digging into datasets to uncover insights and drive improvements.

**Creating Puzzle** Dedicated to designing intricate puzzles that challenge and entertain players, drawing on expertise in game logic and user engagement.



## EXPERIENCE

### Software Developer - FYWARE

2022 – 2023, San Luis Potosí, México

- Developer applications Extended Reality.
- Developer of technological platforms in the software area.
- Algorithms developed in software efficiency
- I contributed to the writing of clean and efficient code, improving the performance of the system.
- I collaborated with a team to implement new software.

### Data Engineer - University of Alberta

2013 – 2022, Edmonton, Canadá

- Automation of the data process between the various sources.
- The analysis of biomedical data for the study in throat cancer.
- Processed data for use in machine learning models improving the accuracy of the prediction.

### Data Scientist - UASLP

2008 – 2017, San Luis Potosí, México

- Management of technical data teams and decision-making.
- Data Analysis in biomedical such as electroencephalogram (EEG), Electromyography (EMG) and data for air quality prediction in weather systems.
- Trained new lab technicians, significantly improving laboratory operations and experiment setups.
- Managed lab inventory and equipment maintenance to data acquisition for signal processing.
- Conducted literature reviews using search engines that influenced the direction of research projects.

### Software Engineer - Prinver S.A.

2005 – 2008, San Luis Potosí, México

- Developed applications for Customer Resources Management (CRM).
- Developed Web in HTML/CSS for control the access to confidential data for projects and customers.
- Manage and configuration of the Network and Server (Data, CRM, Web and Email).
- Helpdesk



## PROJECTS

### ARMONI

Present, San Luis Potosí, México

- Develop a brain analysis application using Functional Near-Infrared Spectroscopy to investigate neurological factors in children with Autism Spectrum.

### Decision-making for education sector

2023 - Present, San Luis Potosí, México

- Application of data analysis for the prediction of sales in video games in the education sector.

### TEARoom Game Project for Children with Autism

2018 - 2023, San Luis Potosí, México

- Development of a digital platform (serious games), for use in children with autism.

### Climate Prediction System

2015 – 2018, San Luis Potosí, México

- Development of an air quality prediction system through data analysis.

### EMG Analysis for the Detection of Glaucoma

2012 – 2013, San Luis Potosí, México

- Detect a Glaucoma using Electroencephalogram and techniques of Artificial Intelligence.

### Recognition of EMG signals using ANNs

2015 – 2018, San Luis Potosí, México

- Design and implementation of an electromyography (EMG) instrumentation system for pattern recognition in movement from arm.



## PUBLICATIONS

### EMG PATTERN RECOGNITION SYSTEM BASED ON NEURAL NETWORKS, 2012, IEEE

- [Movement pattern recognition from arm-forearm myoelectric signals using artificial neural network.](#)
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### OPTIMIZATION OF AN EMG PATTERN RECOGNITION SYSTEM. 2012, CMBC

- [This research demonstrates that the selection methodology of electrode positions is an effective technique to optimize an EMG pattern recognition system.](#)