Emiliano Galeana Araujo

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Career Summary

Software engineer with 2.5 years of experience mostly in back-end development with python. I have knowledge in other languages such as Java, Javascript and any with access to the documentation. I have experience on the best coding practices (unit tests, git repositories) agile methodologies, object oriented paradigm and functional programming and relational databases.

Education

Faculty of Science, Universidad Nacional Autónoma de México *Mexico City, Mexico*
Bachelor of Science in Computer Science Aug. 2016 - Jun. 2020 GPA: 3.7

Faculty of Science, Universidad Nacional Autónoma de México *Mexico City, Mexico*
Bachelor of Science in Mathematics (second bachelor's degree) Jun. 2020 - Graduated in May 2025 GPA: 3.5

Experience

- **Centro Geo** *Jan. 2022 - Present*
  Full-stack Developer Mérida, Yucatán
  - Create web aplication for automate the process of generate a professional ID.
  - Create and modify databases for improve query performance. Also create queries with postgis for geospatial data.
  - Create API with geospatial data collected from web pages using a web scrapper.
  - Automate processes using bash scripts.
  - Creation of user manuals and documentation.
  - Use of rust in certain projects for access APIs and clean data.
- **TCS** *Sep. 2022 - Jan 2023*
  Software Developer Guadalajara, Jalisco
  - Java database integration with JDBC.
  - Maintain and resolving issues of the existing project.
  - SQL: Data reporting and Analysis.
  - Training in Java Essential Trainning in Objects and API's
- **Honeywell** *Jun. 2021 - Jan. 2022*
  Road to Intern Fair San Luis Potosí, San Luis Potosí
  - Created documentation of the services used in software products.
  - Build a system for tracking servers, in order to apply updates automatically.
  - Automated process for report of failures.

Classes Taught

I've been teacher assistant of theory and laboratory at the Faculty of Science at **Universidad Nacional Autónoma de México**of the following courses:

- Computer Arquitecture and Organization (2020-2)
- Data Structures (2020-4, 2023-2, 2024-2)
- Discrete Mathematics (2021-1, 2022-1, 2023-1, 2024-1)
- Distributed Computing (2022-2)
- Introduction to Computer Science (2024-1)
- Learn Java for the great of all (2020-1, 2022-1, 2024-1)
- Logic for Computer Science (2021-2, 2022-2, 2023-1)
- Programming Languages (2021-1, 2022-1)
- Propaedeutic Course for first-year college of Computer Science (2020-1, 2021-1, 2022-1, 2023-1, 2024-1)

Personal and Scholar Projects

- **Thesis project** Voronoi Diagrams of Moving Points in the Plane | Python, processing *In process*
  Programed the Delaunay Triangulation and the Voronoi Diagrams from the triangulation, also develop a system for moving points across the plane and with the coordenates and the two algorithms, I render the visualization with processing. github
- **Home NAS** My own movie library | Raspberry PI *Aug. 2022*
  Set up a raspberry that allows me save movies, books, papers, music and photograps so that me and my family can access acreoss our home network.
- **Xmonad Modules** Battery Signal and Share Screen script | Haskell *May. 2021*
  Create scripts that allow me to connect my laptop when battery is running of and that let me share my screen as mirror or extend mi screen. gitLab
- **TimeStamp in emacs** | emacs-lisp *Dec. 2021*
  Create an emacs module for timestamp when sharing a screen. gitLab
- **The Camel Cup Game** | java *Nov. 2021*
  Develop the board game called Camel Cup, it allows multiple players (on the same computer) and tracks the players scores. gitLab
- **API for Customer-Product services** | java, spring *Nov. 2020*
  Implemented an API for post and get information about customers, producers and their products as a relation between them, it is scalable in the sense of the queries and the entities that can interact

- **Combinatorial optimization heuristics** Travelling Salesman Problem with Simulated annealing | golang, transact-SQL *Jul. 2020*
  Solve the TSP problem using the Simulated annealing heuristic. It uses a database of the most known airports in the world and. Given a list of places, it return one of the bests posible solutions that the heuristic can found. gitHub
- **Haskell Game** Guess the Movie with Emojis | Haskell *May. 2020*
  Implementation of the game: Guess the movie with emojis, using a set of movies with their respectively representation of emojis. gitLab
- **Data Structures and Computational Geometry Algorithms** | Java, C++, golang, JUnit *Nov. 2019*
  Develop a compilation of the most known data structures, like linked lists, trees (AVL, redblack), hash, sets. All with the basic operations as: insert, delete, search, with their respectively unit test. Also add some computational geometry algorithms such as sweep line, delaunay triangulation, voronoi diagrams and advanced data structures such as a DCEL. gitHub
- **Othello Game** Player vs. computer game using search algorithm for get the best move. | Python, processing *May. 2019*
  Using AI search algorithms and a map from the board to a matrix I programmed an IA that can play Othello and it hardly ever loses. It can play with three levels of difficulty and it depends on the deep of the search of the algorithm. gitHub

Certifications and Extracurricular Courses

Rust: First steps *Mexico City, Mexico*
Course at Microsoft Learn 2023 - GPA:

Instituto de Investigaciones en Matemáticas Aplicadas y Sistemas at UNAM *Mexico City, Mexico*
Relational Databases 2019 - GPA:

Dirección General de Tecnologías de la Información y Cómputo at UNAM *Mexico City, Mexico*
Linux System administration. 2017 - GPA:

Contestant at the ACM ICPC. *Mexico City, Mexico*
Honorable mention at the ACM ICPC. 2019 - 2022 GPA:

Best Project Idea for IBM challenge *Mexico City, Mexico*
Winner of IBM challenge at UNAMxHacks 2019 - GPA:

Final of the national CTF(Capture The Flag). *Mexico City, Mexico*
2019 - GPA:

Contestant at the international olympic of logic. *León, Guanajuato*
Honorable mention at the international olympic of logic. 2018 - GPA:

Publications and Talks

- **Bachelor's Thesis** Voronoi Diagrams of Moving Points in the Plane **In process**
  The Voronoi Diagrams can find the closest site of a set to a specific point, the objective of the work is to find the closest site but when a subset of sites are moving across the plane.
- **Compilers Talk** Monadic Parser Combinators; Case of Study for Parsec and BBAE Language **Nov. 2023**
  Talk about monads in the context of syntactic analysis, taking care of a Haskell introduction, monads (with examples), and the study case of a language defined to the talk called BBAE that stands for (only Binary Boolean Arithmetic Expressions).
- **Consensus Problems Talks** Discuss protocols of consensus for synchronous systems. **Dic. 2022**
  Talk about the $k-$agrement, aproximate agreement and commit distributed problem. Discuss about the problems, and the result of halting issues.
- **Propedéutico para Ciencias de la Computación** Manual del propedéutico para Ciencias de la Computación **Since. Aug. 2020**
  An event for future first-year college students of Computer Science, create and update topics and give them talks about initiation in Computer Science.
- **Symposium of Advanced Data Structures** Fibonacci Heaps History and Application in Improved Network **Nov. 2019**
  Talk about the fibonacci heaps, and introductory talk, discuss variants of fibonacci heaps and open problems also results in problems that use heaps and fibonacci heaps.
- **Beca PAPIME 102117** Solucionario para el curso de Lenguajes de Programación **May. 2019**
  Create a solution book of problems given in the Programming Languages course, including exams, haskell practices and class problems.
- **El Encuentro del Mañana, Universidad Nacional Autónoma de México** **Since. Apr. 2019**
  I have been giving talks about my experience as a Computer Science and mathematics student and solving questions about the majors.

Areas of Interest

- Computability Theory.
- Algorithms and Data Structures.
- Competitive Programming.
- Computational Geometry.
- Programming Languages Theory.
- Distributed Computing.
- Logic (Applications of Modal/Multimodal Logic).
- Compiler Design.
- Functional Programming.
- Philosophy/Foundations Of Mathematics.
- Teaching.

Technical Skills

Programming: Java (6 yrs), Python (6 yrs), Haskell (6 yrs), Go (1 yr), JavaScript (1 yr), C/C++, SQL [postgres, MySQL], Racket, Lisp, elixir, markup languajes, shell, many others as needed.
Frameworks: Spring, Django, Flask, FastAPI, vue, react
Developer Tools: Git, Github, GitLab, bitBucket, emacs, Eclipse, LaTeX, Eclipse, Netbeans, VirtualBox, VMWare, Packet Tracer, Processing.
Operating Systems: Linux (Ubuntu, Fedora, Debian, Arch)
Libraries: JUnit, Numpy, Pandas, MatplotLib

Languages

Spanish: Native
English: Business Conversational