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Education

B.S. Computer engineering — Began in **January - 2021**
University of Guadalajara — Expected Graduation **December - 2024**

- **GPA:** 3.7/4.0, 90/100
- **Notable Courses:** Data Structures, Algorithms, Database, Statistics and Numerical Analysis, Compiler and Traslation, Theory of Computation, Computer networks, Computer Architecture
- **Clubs:** "Club de Algoritmia CUCEI" (Algorithms club)
- **Awards or Honors:** Acknowledged for exceptional contributions as part of the **"Eureka"** team, representing the **University of Guadalajara CUCEI**, at the **18th National Programming Contest** in October 2023

Projects

Complex Neural Networks Framework From Scratch:

- Jul, 2023
- Ongoing **CMake** project exploring the utilization of weighted complex numbers in real-valued **neural network models** for potential **cost-effectiveness and accuracy** improvements.
- Developed with **optimized matrix operations** and activation functions for enhanced performance. Compared with numpy's array matrix multiplication and GNU Scientific Library, **the implementation is slightly faster**. My estimation, based on testing with a six-core processor, suggests an improvement ranging from approximately **37.841% to 41.557%**.
- Implemented in pure **C/C++**, leveraging **OMP** for parallelize several for loops and **SIMD** instructions for processor optimization. Unit tested using the **Google testing framework**.

Unit Testing Framework for C in Linux:

- May, 2023
- Pure **C** project designed to simplify and streamline testing of **C** projects on **Linux**, inspired by Python's unit testing library and Google Test.
- Offers more than 20 methods for **assertions and non-fatal assertions**, streamlining the process of creating isolated test cases. Additionally, includes automatic recompilation of test files for improved efficiency.
- Developed entirely in **C** with a **Makefile** for seamless build automation.

Cooking Recipes Web App:

- Feb, 2023
- Ongoing project aiming to create a user-friendly platform for sharing cooking recipes.
- Features robust user management, allowing users **to search, upload, and rate recipes**.
- Implemented in **Python** using **Flask** framework and various **Flask** libraries. Utilizes **MariaDB** for the relational database, **Bootstrap** for frontend development, and **Python's** default unittesting library.

Technical Skills

- **Back-End:** Python, C/C++, Java, Rust, Clisp, Flask and Django.
- **Front-End:** JavaScript, HTML, CSS, BootStrap, ReactJs and Tkinter.
- **DataBase:** MySql, MariaDB, PostgreSQL, SqlServer and FireBase.
- **Developer Tools:** Git, Emacs, Linux environment, CMake and Makefile.
- **Languages:** Spanish(Native), English(Basic).