Luis Santiago Mille Fragoso

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EDUCATION

Instituto Tecnológico de Estudios Superiores Monterrey (ITESM) December 2020
Digital Systems and Robotics Engineering (Electronic Systems Engineering) *GPA: 96/100*

WORK EXPERIENCE

Harvard Medical School Boston, Massachusetts
Bioengineering Research Intern July 2019 - Current

- Design and develop hardware and software to build novel automatic DLP and extrusion bioprinters.
- Design and create lab-on-a-chip devices for tissue engineering research using biofabrication methods.
- Other tasks: basic CFD simulations on Fluent/Comsol, image processing/analysis for data extraction, basic cell culture and member of the lab's safety team.

dicht - Freelance Mexico City, Mexico
Full stack Software Engineer June 2018 – July 2019

- Designed and built web and native applications based on the client's needs.
- Implemented a system in NodeJS/ReactJS for an insurance broker that allows the user to get a quote and buy the insurance online.
- Assisted to reunions with client to gather and review requirements and present products' progress.

Enacment Mexico City, Mexico
Software Engineer April 2018 – December 2018

- Programmed front-end and back-end for an Uber-like application using Node.js and Angular 5 with geolocation and real-time status for a company that offers assistance services.

Bluemessaging Mexico Mexico City, Mexico
Engineer Software Engineer Intern February – October 2017

- Built in new features with JS & Apache Cordova such as permitting and managing e-signatures on the company's web platform and mobile application. Designed and developed chatbots for Twitter's DM in Python. Managed tasks in AWS Lambdas, AWS S3, and Linux servers

MAJOR PROJECTS

iGEM Competition 2018
*Member of the 2018 ITESM-CEM IGEM team - Earned Gold Medal and nominated to **Best Hardware**, **Best Software** and Best Measurement tool*

- Developed a software to approximate the number of cells in a culture using OpenCV and Python. Implemented a low cost, automatized cell-culture-medium-changing system with IoT implementation using an ESP8266, a Python's Flask server and a ReactJS web app.

Quadruped Robot 2018
An autonomous quadruped robot capable of walking, turning and evading obstacles.

- Designed and manufactured the mechanical and electrical system and programmed the robot to be autonomous. Calculated the Forward and Inverse Kinematics, designed a trajectory for each leg and built a simulation program in Matlab.

Another Monkey Paradox 2018
Mobile game for iPhone and Android devices that features an adventurous chimp throughout time and space. Available in stores.

- Designed, developed and created the games theme. Programmed with Java using LibGDX and Android Studio.

MIPS Processor 2016
A working processor implemented with System Verilog HDL and tested in Altera's DE2 FPGA

- Implemented a MIPS processor on a FPGA using Verilog and a subset of its assembler's instructions.

EXTRACURRICULAR ACTIVITIES

Co-founder of a Civil Association June 2014 – Current
Co-founder, active member, and creative director of "Un Motivo Más A.C.".

- Founded and leaded the organization for 1 year. Coordinated different activities for underprivileged children in Mexico

Research in Bioengineering October 2018 – June 2019

- Worked on enhancing a kidney-on-a-chip's design to better simulate diseases and test treatments. Used SolidWorks to design and Comsol Multiphysics/Ansys Fluent to simulate microfluidic dynamics. Manufactured the chip's mold with CNC micromachining.
- Assembled a lab-on-a-disc and a spectrophotometer to conduct multiple cytotoxicity assays

SKILLS

PROGRAMMING LANGUAGES

★★★: Java, Python, JavaScript
★★: Matlab, C
★: R, Verilog, VHDL

AWARDS

Gold Medal and 4 nominations in iGEM 2018's competition
2nd Place Labyrinth solving robot's hackathon (2016)
1st Place in the XXII Science and Technology Fair (UNAM - 2014)
5 times granted with academic excellence.

PROFESIONAL INTERESTS

Bioinformatics and Computational Biology
Software and Electrical Engineering
Bioengineering

TECHNOLOGIES

Bootstrap, Git, AWS, Python, Flask, **OpenCV**, ReactJS, Unix/Bash, Android SDK, SciPy/Anaconda, Ionic, Angular, Cordova, Node.js, Firebase, Google Cloud Functions. **SolidWorks**, **RaspberryPi**, Linux, Bluemix, **Fluent**, **Comsol**, Arduino, Jupyter, Linux, **CNC**, G-Code, **RTOS, IoT, MQTT.**

RELEVANT COURSES

Data Structures, Operating Systems, Microcontrollers, CCNA 1 & 2, Algorithms, Intro to Machine Learning, Computer Architectures (ITESM), Intro to Algorithmics (Pluralsight, 2016), Machine Learning (Udacity, 2017), Basics of AI (British Columbia, 2017), Machine Learning for Genomics (MIT, 2019), Engineering Quantum Mechanics (Harvard, 2020)

PERSONAL INTERESTS

Brewed Drinks; Quantum Mechanics; Anime & Cartoons; Politics; Philosophy/Ethics; Comedies; Science; Food & Drinks.