José Alejandro Concepción Alvarez

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Date of Birth: September 29th, 1995

Degrees

2014–2019 **Master and Bachelor in Automation Engineering (Single-Cycle, 5 years)**, Biomedical and Automation Faculty, Technological University of Havana (CUJAE), Cuba. Granted the *"Scientific Merit Award"*
Grade: 4.72/5.

Experience

Professional

2019–Present **Full Stack Developer**, *Start-up Guajitech*, Havana, Cuba.
Development of mobile and frontend applications using Javascript frameworks. Backend development using Nodejs framework with relational and non-relational databases like MySQL and MongoDB. Experience in several types of applications such as:

- Dynamic Web Application
- Single Page and Multi-Page Apps (SPA), (MPA)
- Portal Web Apps
- Web Applications with a Content Management System
- Simulation environments
- E-commerce Web Apps

2019–2020 **Intern professor**, *Technological University of Havana (CUJAE)*, Cuba.
Teaching ***Microcontroller I***: Internal architecture of the 8051 microcontroller, programming in assembly and C language.
Teaching ***Introduction to Matlab I***: Matlab Programming, basic concepts, development environment, programming problems and simulation of physical processes using the MatLab Tool.

2017–2019 **Programmer in PiVoT**, Cuba.
Start-up company with the goal of offering software and hardware solutions to small businesses. Provided automation solutions using **SBC Raspberry Pi** and **Arduino** microcontroller board.

Vocational

2018–2019 **Research Assistant Student**, *CUJAE*, Cuba.
Design of a Two Wheel Self Balancing Robot: Design of a two wheel self-balancing robot based on the Arduino microcontroller, development of PID algorithms, complementary filter, and Kalman filter. (`https://youtu.be/dg8ftpSStIc`)

2018–2019 **Research Assistant Student**, *CUJAE*, Cuba.
Development of a simulator for an inverted pendulum system: Development of simulation software for the kinematics of an inverted pendulum system on wheels. Testing of PID control algorithms. (`https://youtu.be/O6BeBPsemHU`)

2016–2018 **Research Assistant Student**, *CUJAE*, Cuba.
Designing a Robotic Platform with Ackerman steering geometry and Development of Tracking and Path Planing Algorithms for Wheeled Mobile Robots. (`https://youtu.be/Kv2xxKv3fYU`)

2015–2017 **Assistant Student**, *CUJAE*, Cuba.
Teaching *Object-oriented programming*: Introduction to the C ++ language, fundamental characteristics, functions, classes, inheritance, polymorphisms, data structures and algorithms.

Research

Research projects

2019 *"Design of a Two Wheel Self Balancing Robot"*, J. Alejandro Concepción.

2018 *"Design and development of a mobile robot with ackermann kinematic model compatible with the rosi platform"*, J. Alejandro Concepción, Alfredo J. Fernández Rodríguez, Joaquín Amigó Vega, Juan A. Piñera García, Roger Casimiro Martínez.

Presentations

2019 *"Design and Implementation of a Robot with Ackermann steering geometry"*, Seminar presentation offered at the University Science Fair, University of Havana.

2019 *"Design and Implementation of a Two Wheel Self Balancing Robot"*, Seminar presentation offered at the University Science Fair, University of Havana.

Contribution to open source

2021 **ngp-enter-section** *"Angular library for creating animations on web content. Creates transitions on the X and Y axes that create the nice effect of entering content as the user scrolls."*.

2021 **ngp-lazy-load** *"An angular npm package for the lazy loading of images, ifrmes, object and any HTML DOM Element, it improve the web site performance"*.

2020 **ngp-image-picker** *"An angular npm package for the selection, edition and compression of images"*.

2020 **ngp-material-rating** *"A angular npm package for editing and showing rating variables"*.

Awards and certifications

Awards

2019 *"Scientific Merit Award"*. Awarded upon graduation for the scientific work developed during the career. Granted by the University Council and the University Students Federation at the CUJAE, Cuba

2018 *"Design and Implementation of an Autonomuous Robot with Ackermann steering geometry"*. Awarded 4 firsts prices on the 2018 Science Forum in the Committees of Instrumentation, Hardware, Software and Control at the CUJAE, Biomedical and Automation Engineering Faculty, Cuba

2018 *"Design and Implementation of an Autonomuous Robot with Ackermann steering geometry"*. Awarded third price on the 2018 Science Forum in the Electronics and Programming Committee at the University of Havana, Physics Faculty, Cuba

2017 *"Mechanical design of a Robot with Ackermann steering geometry"*. Awarded first price on the 2017 Science Forum in the Poster Committee at the CUJAE, Mechanical Engineering Faculty, Cuba

Certifications

2021 *"JavaScript (Intermediate) Certificate - HackerRanck"*
2021 *"Problem Solving (Basic) Certificate - HackerRanck"*
2021 *"SQL (Basic) Certificate - HackerRanck"*
2021 *"Node.js (Intermediate) Certificate"*
2018 *"The 2018 ICPC Caribbean Finals"*. Rank: 16, 2018 Caribbean Finals, Cuba
2018 *"The 2018 ACM-ICPC Caribbean National Contests"*. Rank: 31, 2018 Cuban Finals, Cuba
2017 *"The 2017 ACM-ICPC Caribbean Finals"*. Rank: 30, 2017 Caribbean Finals, Cuba
2017 *"The 2017 ACM-ICPC Caribbean National Contests"*. Rank: 24, 2017 Cuban Finals, Cuba

Languages

Spanish **Native Language**
English **Full Professional Proficiency**

Related Skills

Social:.
Teamwork, Team Management, Project Management, Public Speaking, Teaching.

Programming languages:.
Python, C, C++, MatLab, HTML/CSS, JavaScript, TypeScript

Robotics:.
Mechanical Design, Speed Control, Path Control, Path Planning, Localization, Obstacle Detection.

Frameworks:.
Angular, React, Nodejs, Ionic, Flask

Databases:.
MySQL, MongoDB

Digital Systems:.
PICs, Intel 8051 and ARM Microcontrollers, Altera and Xilinx FPGAs with VHDL, Arduino and Raspberry Pi.

Electronics:.
Signal Processing, Printed Circuit Board Design, Digital Design and Prototyping.

Operating systems:.
Linux, Windows and IOS

Version Control Systems:.
Git.

Courses

Postgraduate (Online)

- ***JavaScript Algorithms and Data Structures Masterclass***: january 2021 to march 2021, offered by Colt Steele, `https://www.udemy.com/course/js-algorithms-and-data-structures-masterclass/`
- ***The Ultimate MySQL Bootcamp: Go from SQL Beginner to Expert***: september 2020 to november 2020, offered by Colt Steele, `https://www.udemy.com/course/the-ultimate-mysql-bootcamp-go-from-sql-beginner-to-expert/`
- ***NodeJS The Complete Guide(Express, MySQL, MongoDB, Send Mails, GraphQl)***: december 2019 to february 2020, offered by Academind, Maximilian Schwarzmüller, `https://www.udemy.com/course/nodejs-the-complete-guide/`

- ***Angular - The Complete Guide***: february 2019 to may 2019, offered by Academind, Maximilian Schwarzmüller, `https://www.udemy.com/course/the-complete-guide-to-angular-2/`

Pregraduate (Online)

- ***Python for Everybody Specialization***: july 2017 to august 2017, offered by Michigan University, `https://www.coursera.org/specializations/python`
- ***Algorithms, Part I***: january 2016 to april 2016, offered by Princeston University, `https://www.coursera.org/learn/algorithms-part1`
- ***Machine Learning***: july 2015 to december 2015, offered by Stanford University, `https://www.coursera.org/learn/machine-learning`
- ***Control of Mobile Robots***: march 2015 to june 2015, offered by GeorgiaTech, `https://www.coursera.org/learn/mobile-robot/home/welcome`