

Jhonantans Moraes Rocha

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Profile

Fullstack Developer, Automation and Control Engineer (Mechatronics) and computer science enthusiast. During my graduation, I worked on research with Rockwell PLCs, designing and implementing control algorithms in Structured Text, Ladder, and Function Blocks. In 2011 I started working with low level languages, notably C/C++ and Assembly. Since then, I have dedicated myself to improving my knowledge of languages and paradigms, incorporating new concepts such as OOP and Real Time Programming and always aiming for code quality and commitment to best-practices. In 2014, I joined the football team of humanoid robots UnBeatables, representing my university in the robotics competition, Robocup. Since 2016 I am a developer on the team of Moringa Digital, one of the largest online advertising companies and web systems in Brasilia. Since then, I have focused on mobile development using the latest hybrid tools such as Ionic 2, Cordova and IntelXDK. As a fullstack developer, my responsibilities range from database planning to user interface implementation, server programming, and mobile application delivery.

Technical Summary

Programming Languages:

- C/C++
- Python
- PLC: Ladder, Structured Text, Function Blocks
- Javascript (ES5, ES6, TypeScript)
- HTML5
- ASP
- .NET
- VBA

Technologies:

- Angular 1 & 2
- Ionic 1 & 2
- MySQL
- Git
- Hybrid Mobile Apps (Cordova / IntelXDK)
- OpenCV
- JQuery
- Advanced Excel

Experience

Fullstack Developer

Moringa Digital
feb 2016 - Now

Acting in the development of hybrid applications for Android and iOS, implementation of web systems and creation and maintenance of websites.

System Development:

- Back-End: ASP and MySQL
- Front-End: HTML5/Javascript

Mobile Applications Development:

- Hybrid Application Tools: Intel XDK, Cordova
- Frameworks: Angular 1 & 2, Ionic 1 & 2

Member (Academic Team)

UnBeatables (UnB)

2014 - 2016

UnB humanoid robot soccer team. During the two years I was a member, I was responsible for the area of communication robot-robots and computer-robots. I worked in the area of movement and locomotion, expanding the set of gestures and actions of the player. Finally, I developed the structure of the state machine of behavior, implementing the reaction to events autonomously and elaborating new roles of the players.

Technologies used:

- NAO Robot
- C++
- Python
- Communication Networks(UDP/TCP)
- Linux
- State Machines

Prizes:

- World Champion, Robocup 2015, Drop-In Only category
- World Champion, Robocup 2016, Drop-In Only category
- Latin American Champion, LARC/CBR 2015, Standard Plataform League
- Latin American Champion, LARC/CBR 2016, Standard Plataform League

Researcher (Academic Research)

University of Brasilia (UnB)

2014 - 2016

Development and application of Fuzzy controllers, based on the Takagi-Sugeno method (TS), to an industrial-level plant controlled by a Rockwell CLP. The non-linear mathematical modeling of the Four-Tanks system and its linearization were developed during the research. The method proposed by TS was then applied, elaborating the Fuzzy model of the system, an approximation as precise as one wants of the real plant and of simple manipulation in computational terms. From this model, the systematic design of controllers via LMIs was carried out. In order to obtain a null error in the steady-state regime, a Proportional Integral (PI) control was obtained, based on the state space of the model plus the integral channels of the error of the controlled outputs. A Rockwell PLC (1756-L62) has been installed and integrated into the bench along with the input and output data modules used. This was followed by integration with the development software (RSLogix, RSLinx, Matlab) and the communication configurations between them. TS models were simulated and their validated projected efficiency, as well as the controllers developed from them. Finished with the implementation of the closed loop in the controller, through Structured Text and Function Blocks, and project validation.

Technologies used:

- Fuzzy Logic
- PI Controller
- PLC Programming: Ladder, Structured Text, Function Blocks
- Matlab

Academic Formation

University of Brasilia

Automaiton and Control Engineering

2011 - 2016

The course brings together knowledge in Mechanical, Electrical, Electronics and Computer Science aiming at the development of control and automation solutions for industrial and non-industrial environments. The points specially studied are:

- Control design and implementation
- PLC Programming
- Robotics
- Programming
- Mechanical Engenineering
- Electrical Engenineering
- Electronics

Personal Details

- Personal Website: jhonrocha.github.io
- GitHub: github.com/jhonrocha
- Languages: Portuguese (Native), English (Advanced), Spanish (Intermediary)