Nestor D. **Pereira Neto**

Electronic engineer · 36

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"I have a degree in Electronic Engineering (2013) and a specialization in Biomedical Engineering (2019). I have experience in the maintenance of diagnostic imaging hospital equipment. In 2011, I started to work as a teacher in technical and higher education courses. I am currently finishing my Masters in Electrical Engineering at the Federal University of Bahia in the area of computing and robotics. Since 2019 I have had the pleasure of working in research and development in the field of robotics. Main areas of interest: Hardware development, C/C++ Programming; Embedded systems; Real-time systems and Mobile robotics localization and navigation."

Education

Federal University of Bahia - UFBA

Salvador, BA

Master's Degree in Electrical Engineering - Research Line: Computing and Robotics — *Apr. 2018 - Sep. 2022*

- Communication between *Robot Operating System - ROS* and *System-on-a-chip - SoC* with integrated FPGA.
- Scholarship from Higher Education Personal Improvement Coordination - CAPES

Estácio de Sá University

Salvador, BA

Specialization in Biomedical Engineering — *Oct. 2017 - Feb. 2019*

- Convolutional Neural Network for Detection of QRS Complexes in Electrocardiogram Signals

Faculty of Science and Technology - ÁREA1

Salvador, BA

Bachelor's degree in Electronic Engineering — *Feb. 2008 - Jul. 2013*

- Command prototype to fit X-ray equipment to the standards required by the National Health Surveillance Agency - ANVISA.
- Undergraduate research scholarship for two years

Experiências Profissionais

SENAI - CIMATEC

Salvador, BA

Consultant II - Robotic Engineering — *Apr. 2022 - currently*

- ROS2 robotics framework: Gazebo Simulation, URDF/Xacro, SLAM Techniques for UGV.
- Programming C/C++ and python.
- Hardware and software integration.
- Hardware and firmware development for embedded systems.

Consultant II - Robotic Engineering — *Apr. 2019 - Apr. 2022*

- ROS robotics framework: Gazebo Simulation, URDF/Xacro.
- Programming C/C++ and python.
- Hardware and software integration.
- Hardware and firmware development for embedded systems.

Professor part time - 20h — *Nov. 2018 - Apr. 2019*

- Teach class for the course: Industrial Mechatronics.
- Subjects: Analog Electronics and Digital Eletronic.

ÁREA1|Wyden College

Salvador, BA

Laboratory technician — *Jul. 2013 - Aug. 2017*

- Prepare and teach practical classes for the courses: Computer Engineering, Electrical Engineering and Automation Engineering.
- Test new tools used in laboratories and provide training.
- Provide extension courses and the experience program.

Alfamed Eletromedicina

Salvador, BA

Engineer - Technical responsible — *Aug. 2013 - Feb. 2015*

- Technical responsible for the company.
- Electronic maintenance in hospital bio-imaging equipment.

Centro Territorial de Educação Profissional da Região Metropolitana CETEP-RM

Camaçari, BA

Teacher - 40h — *jun. 2011 - jun. 2013*

- Teach classes in the following subjects: Analog and digital electronics; Microcontrollers; Electric circuits.
- Guide students in their course completion work.

Micro Comércio e Serviço Ltda. *Salvador, BA*

Maintenance technician *Jun. 2009 - Sep. 2010*

- Preventive and corrective maintenance in hospital bioimaging equipment.

Intern - maintenance *Mar. 2008 - Jun. 2009*

- Preventive and corrective maintenance in hospital bioimaging equipment.

Idiomas

Português Native.
Inglês A2 level - CERF.

Cursos

2022 **English lessons (weekly),** Private course *Salvador, BA*
2021 **FPGA INTEL Training(20h),** Macnica DHW - Official Training Center FPGA INTEL *Florianópolis, SC*
2018 **NucLi - English. listening comprehension (32h),** Federal University of Bahia - UFBA *Salvador, BA*
2018 **Programa Idiomas sem Fronteiras: My English Online - Level 4 (120h) ,** Ministry of Education - MEC. *Brasil*
2010 **Study of Device Control via parallel, serial and USB ports (60h),** Faculdade ÁREA1. *Salvador, BA*
2010 **Applied Analog Electronics (30h),** Faculdade ÁREA1. *Salvador, BA*

Projects and Research

SENAI CIMATEC *Salvador, BA*

SuBot - CTG Brasil (China Three Gorges Corporation) *Out. 2021 - Atualmente*

- Mobile robotics development project for inspection of high voltage substations.
- Development of ROS nodes in C/C++ and Python language.
- Hardware and firmware development for actuator systems and peripheral communication.
- Electronic project development.

DIGISUB - Petrobras *Abrp. 2019 - Oct. 2021*

- 3D digitizer development project of underwater surfaces in deep water.
- Development of ROS nodes in C/C++ and Python language.
- Hardware and firmware development for actuator systems and peripheral communication.
- Prototype power system sizing: sources, AC-DC/DC-DC converters, batteries.

Escola Politécnica da Universidade Federal da Bahia - UFBA *Salvador, BA*

Projeto de Mestrado *Dez. 2018 - atualmente*

- 1 GigE communication development between FPGA and ROS.
- Hardware project in verilog for implementation in SOC/FPGA (Cyclone V - Intel).
- Socket programming in C/C++ language for linux.
- Development of ROS nodes in C/C++ language.

Faculdade ÁREA1 *Salvador, BA*

Iniciação Científica *Jul. 2011 - Jul. 2013*

- Development of a microcontrolled command to fit old X-ray equipment to current technical standards.
- Programming 8051 family microcontrollers in assembly language.
- Research of the technical standards established by ANVISA in relation to X-ray equipment.
- Presentation of monthly reports with activities developed in the period.
- Publication of the results in an article in the journal *Cientefico ISSN 1677-1591, jul/dez 2013*.

Competências e Habilidades

Básico Verilog HDL, Sockets, Cmake, GDB, Nios II, FreeRTOS, Embedded Linux, SimuLink.
Intermediário Python, ARM Cortex M, Linux, Git/Github, PIC, AutoCAD, ROS/Gazebo.
Avançado Layout de circuito impresso/KiCad, Matlab, C/C++, AVR, 8051, GNU-Make, LaTeX.

Presentation

28th IBERCHIP Workshop *Santiago, Chile*

IEEE Circuits and Systems Society in Latin Ameriaca *1-4 Mar. 2022*

- Comunicação entre Robot Operating System - ROS e SoC com FPGA integrado