Silas Alves

Roboticist and Virtual Reality developer

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silasalves
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Experience

09/2020 – *present*
Postdoctoral Fellow — *Ontario Tech University, Canada*
- Managed collaborators and created content for a Microcredential course (40 hours) on 3D printing and Virtual Reality for medical staff.
- Managed a Capstone team that added multiplayer and voice interaction on JDQ's robot simulator.
- Developed a robot simulator that used virtual reality headsets to allow users to interact with the virtual robot.
- Created software for generating synthetic data to train machine learning models.
- Managed the development of a Micro-credential on 3D Printing

10/2019 – present
06/2018 – 09/2018
Research Lead — *JDQ Systems Inc., Canada*
- Developed VR spaces in AltspaceVR with interactive objects to showcase the robot to partners and stakeholders.
- Incorporated Alexa Voice Service Device into JDQ's robot
- Integrated Alexa Skills with MS Azure Cognitive Services
- Implemented people detection and tracking package for ROS (C++, Python) using Intel OpenVINO Toolkit.
- Implemented robot navigation and human-robot interaction.
- Pilot project with Jobs West, Vancouver, BC, to foster the employment of people with developmental disabilities.

04/2017 – *06/2020*
Postdoctoral Fellow — *University of Toronto, Canada*
- Co-instructed: MIE443 Mechatronics Systems: Design and Integration
- Co-supervised four projects involving one PhD, six Master, and one undergraduate student
- Developed socially assistive robots to aid older adults living with cognitive disorders
- Applied machine learning for multimodal robot perception
- Programmed robot platforms with ROS (C++ and Python)
- Designed and conducted human-robot interaction studies

09/2016 – 12/2016
Research Manager — *University of São Paulo State, Brazil*
- Managed the development of a mobile security robot for intruder detection
- Supervised one master and one undergraduate student
- Integrated Raspberry PI and Atmel AVR for acquiring sensor data
- Applied reactive navigation, sound source detection, and motion detection (C, C++ and OpenCV)

02/2015 – 03/2015
Seasonal Lecturer — *Anhanguera Faculty, Brazil*
- Designed and instructed the practical course "Introduction to Embedded Software Development with Arduino"

02/2012 – 07/2012
Seasonal Lecturer — *University of São Paulo State, Brazil*
- Designed and instructed the courses: (*i*) Operating Systems and (*ii*) Operating Systems I

Short Bio

Dr. Alves has 10+ years of experience with robotic hardware and software, and 2 years with virtual reality and simulation. He managed several R&D projects, and mentored multidisciplinary teams of graduate and undergraduate students. He applies his extensive experience with human-centered design and technological know-how to help organizations and their clients to reach their goals.

Skills

Advanced: *C, C++, Python, ROS, Microchip PIC, Scikit-Learn, WEKA, Unity 3D*

Intermediate: *Java, PHP, Matlab, JavaScript, Node JS, HTML, CSS, OpenCV, Atmel AVR, Statistics.*

Basic: *C#, UML, Android development, Brain-computer interfaces.*

General: *Microsoft Windows, GNU/Linux, Office, LATEX, Adobe Flash, Eagle EDA.*

Education

PhD, Electrical Engineering
Specialization: *Dynamic Systems*
University of São Paulo – USP
2012 – 2016, São Carlos, Brazil

MSc., Mechanical Engineering
Specialization: *Mechanical Design*
University of Campinas – Unicamp
2010 – 2011, Campinas, Brazil

BSc., Information Systems
University of São Paulo State – Unesp
2006 – 2009, Bauru, Brazil

Languages

Portuguese, *native speaker*
English, *full professional proficiency*