











Silas Alves

Robotician and Virtual Reality developer

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.
- 10/2019 – present **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.
- 06/2018 – 09/2018 **Research Lead**  *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
- 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 College, 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*
-

 /in/silas-reis-alves
 silasalves
 https://silasalves.github.io/

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*