

# Willian Galvani

✉ williangalvani@gmail.com ☎ +55 (48)99996-5310 📍 Florianópolis - SC - Brazil

## EDUCATION

### UFSC

COMPUTERS SCIENCE BACHELOR'S  
Incomplete: 2008-2010

5-YEARS DEGREE ON CONTROL AND  
AUTOMATION ENGINEERING  
(IAA 7.0) (GPA 3)

MERIT-BASED SCHOLARSHIPS: 100%  
2011 - 2017

### SEAMK

(AUTOMATION ENGINEERING  
EXCHANGE STUDENT)  
2014-2015

## SKILLS

### Programming

Python	●●●●●●●●●●
C	●●●●●●●●●●
C++	●●●●●●●●●●
C#	●●●●●●●●●●
LaTeX	●●●●●●●●●●
MATLAB	●●●●●●●●●●
HTML	●●●●●●●●●●
JavaScript	●●●●●●●●●●

### Frameworks/Libraries

Arduino	●●●●●●●●●●
Django	●●●●●●●●●●
Vue.js	●●●●●●●●●●
OpenCV	●●●●●●●●●●
Qt	●●●●●●●●●●

### Others

GIT	●●●●●●●●●●
Inventor	●●●●●●●●●●
Linux	●●●●●●●●●●
Networking	●●●●●●●●●●
SolidWorks	●●●●●●●●●●
Proteus	●●●●●●●●●●
V-REP	●●●●●●●●●●
Eagle	●●●●●●●●●●

1-Shallow knowledge.

2-Able to perform minor changes.

3,4-Able to develop small projects.

5,6-Comfortable with the tool, able to fulfill more complex tasks and projects.

7,8-Understands the inner workings of the tool.

9,10-Comprehensive knowledge regarding the tool's implementation, inner workings, and nuances, able to recreate it given enough time.

## PROFESSIONAL EXPERIENCE

### NOVARUM SKY

FULL STACK EMBEDDED SOFTWARE ENGINEER.

(PYTHON + RASPBERRY PI + GSTREAMER + ASTERISK + VUE.JS + HTML + CSS + WEBSOCKETS)

March 2017 - Now

- Development of auxiliary systems for drones providing long-range HD video and audio transmission.
- Development of an drone-based inspection system for industrial inspections.
- Design and manufacture of an VTOL fixed-wing aircraft for photogrammetry.

### UFSC / FEESC / PETROBRAS

DERIVATIVE FREE OPTIMIZATION FOR AUTOMATIC TUNING OF AN OIL WELL SIMULATOR.

(PYTHON + MATPLOTLIB)

August 2016 - March 2017

- Use of tuners for optimization of black box functions.
- Implementation of derivative free optimization methods in Python.
- Implementation of a software interface between tuners and Petrobras in-house multi-phasic flow simulation software.

### INSTITUTO SESI DE INOVAÇÃO

(C + C++ + KINETIS + PYTHON + ASTERISK)

EMBEDDED SOFTWARE DEVELOPMENT.

August 2015 - February 2016

- Embedded Python development on Raspberry PI.
- Embedded C programming on freedom K64f platform.

### UFSC - LABORATÓRIO DE CONTROLE DE AUTOMAÇÃO

(PYTHON + QT + ARDUINO)

PROVANT- PROJECT OF AN UNMANNED AERIAL VEHICLE.

July 2012 - June 2014

- Pilot and Developer at ProVant, project of an autonomous Tilt-Rotor aircraft.
- Design and implementation of communication protocol between UAV and ground station.
- Assistance on electrical, electronic, and mechanical projects.
- Design and implementation of a ground station software using Python and Qt.

### UFSC - DEPARTAMENT DE AUTOMATION AND SYSTEMS

(PYTHON + DJANGO + JS + CSS + HTML)

WEBSITE DEVELOPMENT AND MAINTENANCE

August 2011 - December 2013

- Development and maintenance of both the Department of Automation and Systems and Control and Automation Engineering course websites.

### DEVELOPMENT OF THE ACCESS CONTROL SYSTEM

November 2013 - June 2014

- Development and maintenance of a access control management system interface internal for the department and it's laboratories, interfacing with the built-in software on the controllers.

## INTEREST AREAS

- RC Aircraft
- 3D Printing
- Artificial Intelligence
- Optimization
- Programming
- Mobile Robotics
- Autonomous Vehicles
- Computer Vision
- Software Defined Radio


## LANGUAGES

- Portuguese (native)
- English (Toefl IBT 106/120)
- German (novice)

## GITHUB

 [GitHub.com/Williangalvani](https://github.com/Williangalvani)

## WEBSITE

 [GalvanicLoop.com](http://GalvanicLoop.com)

## LINKEDIN

 [Linkedin.com/in/willian-galvani](https://www.linkedin.com/in/willian-galvani)

## PROJECTS

### W4LKER (C + PYTHON + OPTIMIZATION)

- A quadruped spider-like robot.
- The project was built from scratch, the mechanic was designed on Autodesk Inventor, the electronics on Eagle, an software built with python and C.
- A model was built on V-REP for testing the kinematics and gaits.
- Optimizator and geometry for the inverse kinematics.

### EXPOSER/EXPOSER-GUI (QT + PYTHON + C++)

- Project of a high level communication interface between microcontrollers and computers, and of the underlying communication protocol.
- The project has very High-Level communication interfaces implemented for both Python and C++, and provides an easy-to-use Qt Graphical interface.

### PROVANT GROUNDSTATION (PYTHON + QT)

- Software developed for the PROVANT project, a tilt-rotor developed by UFSC and UFMG.

### RPI MULTIWII FPV (PYTHON + QT + GSTREAMER)

- Experiments on the use of a Wi-Fi network for telemetry, video downlink, and control uplink. All links were implemented in UDP for a reasonable latency.

### DRONE TOKEN TRACKER (PYTHON + OPENCV)

- Token tracking system by a quadrotor on the V-Rep simulator.

### DIYOSD MULTIWII (ARDUINO + LOW-LEVEL + ELECTRONICS)

- Project of a low-cost OSD using only an Arduino and passive components, heavily execution time sensitive for data manipulation tasks.

### AUTONOMOUS SOLAR GLIDER (WIP)

(XFLR5 + 3D-PRINTING + ELECTRONICS)

- Design of an autonomous powered glider, autonomous both for navigation as in power generation.
- Objective of autonomously identifying and taking advantage of thermals.

### HKSEARCHER (PYTHON + DJANGO + JQUERY)

- Scrapper and search engine for motors and batteries on HobbyKing

## VOLUNTEER WORK

### ROBOTA -UFSC

#### MOBILE ROBOTICS COMPETITION TEAM.

March 2016 – now

- Development of autonomous robots for competitions.
- Development of open-source solutions and tools for mobile robotics.