# Willian Galvani

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## 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)
2014.2-2015.2

## SKILLS

Programming

| | |
|---|---|
| Python | ●●●●●●●○○○ |
| C | ●●●●●●○○○○ |
| C++ | ●●●●●○○○○○ |
| C# | ●●●●●○○○○○ |
| LaTeX | ●●●●●○○○○○ |
| MATLAB | ●●●●●○○○○○ |
| HTML | ●●●●●●○○○○ |
| JavaScript | ●●●●●●○○○○ |

Frameworks/Libraries

| | |
|---|---|
| Arduino | ●●●●●●●○○○ |
| Django | ●●●●●●●○○○ |
| Ionic | ●●●●●○○○○○ |
| 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 + JS + HTML + CSS)
March 2016 – Now

- Development of auxiliary drone systems for long-range High definition 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++ + 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 e Developer at ProVant, the 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 OF 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.
- Data Science
- Artificial Intelligence.
- Optimization.
- Programming.
- Mobile Robotics.
- Autonomous Vehicles
- Computer Vision.
- Software Defined Radio

## LANGUAGES

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

## GITHUB

GitHub.com/Williangalvani

## WEBSITE

GalvanicLoop.com

## PROJECTS

### UAV DESIGN/ASSEMBLY

- Quadrotors (MultiWii, ArduPilot, KapteinKuk).
- Trirotor (MultiWii).
- Tilt-rotor (MultiWii).
- Fixed-Wing Aircraft.

### PROVANT GROUNDSTATION (Python + Qt)

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

### RPI MULTIWII FPV (Python + Qt)

- 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.

## 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.