

# GABRIEL CRUZ

## Computer Science Undergraduate

📍 São Carlos, Brazil

@ gabriel.melo.cruz@usp.br

🐙 github.com/gmelodie

🔗 gmelodie.github.io/

in /in/gabriel-de-melo-cruz/

## EXPERIENCE

### Computer Science Student

#### University of São Paulo

📅 Feb 2016 – Present

📍 São Carlos, Brazil

### Security Researcher

#### University of São Paulo

📅 Nov 2018 – Present

📍 São Carlos, Brazil

- Researching IoT security measures and vulnerabilities
- Writing a monography about DoS attacks in MQTT-based networks
- Implementing attacks in MQTT brokers
- Exploiting vulnerabilities in sensor networks

### Software Engineer Intern

#### Quero Education

📅 Jul 2018 – Aug 2018

📍 São José dos Campos, Brazil

- Developed a web application in Elixir using the Phoenix web framework
- Engineered several complex SQL database queries using Elixir's Ecto database wrapper
- Deployed the application into a real production environment

### Teaching Assistant

#### University of São Paulo

📅 Feb 2017 – Jul 2017

📍 São Carlos, Brazil

- Introductory course to Computer Science
- Developed coding assignments
- Taught students in support classes

## SKILLS

**Programming languages:** C/C++, Python, Javascript, Elixir

**Tools:** Wireshark, Bettercap, Unix/Linux, Vim

**Protocols:** TCP, IP, MQTT, HTTP/HTTPS, SSL/TLS

**Frameworks:** Phoenix, Django

**Languages:** Portuguese, English, French

## VOLUNTEER WORK

### Visit monitor

#### University of São Paulo

📅 Apr 2019

📍 São Carlos, Brazil

- Worked as a volunteer monitor in university visits for high school students

### Parkour teacher

#### São Carlos Metalurgic Syndicate

📅 May 2019

📍 São Carlos, Brazil

- Worked as an instructor and teacher in an introductory parkour session for children in need

## PROJECTS

### Web development introduction course

- Wrote a series of posts on Medium about web development
- Learned while writing the posts in order to show the process of solving problems independently
- Used and shared some previous knowledge about computer networks and the World Wide Web

### Python web scrapper

- Created a web scrapper in python to collect content of an HTML page about a game
- Open Source project
- Worked with different people during the Hacktoberfest, an event promoted by Digital Ocean in order to promote Open Source projects
- Created a python package and submitted it to PyPi

### Image processing

- Implemented four different types of image processing techniques: generation, enhancement, restoring and color segmentation
- Learned about python's numpy and scipy libraries while developing the algorithms
- Learned about the Fourier Transform
- Implemented the K-means algorithm in order to provide color segmentation techniques

### Entretenibit: local events tracker

- Created a web platform containing a scrapper and a web site to facilitate search about events.
- Used Docker to deploy the server into a web hosting environment