# RAFAEL ACCÁCIO NOGUEIRA

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#### Education

Nov. 2019 Ph.D in Automatic Control. dec. 2022 CentraleSupélec/Université Rennes 1, (ongoing) Rennes, France.

Sept. 2017 Master 2 Research in Electronics - Signal, Imaging, Embedded Systems

Sept. 2018 and Control, Control Path

CentraleSupélec/Université Rennes 1,

Rennes, France.

Sept. 2016 Automatic Systems Engineering - Supélec Formation,

Sept. 2018 CentraleSupélec, Île de France. France.

Control and Automation Engineering Bachelor Degree, apr. 2013

jul. 2019 Universidade Federal do Rio de Janeiro,

Rio de Janeiro, Brazil.

apr. 2010 **Electronics Technical**,

dec. 2012 Centro Federal de Ensino Tecnológico Celso Suckow da Fonseca,

Rio de Janeiro, Brazil.

## Experience

oct. 2018 **Engineering Intership**,

feb. 2019 Team: Machine Learning/Fraud Detection - Stone Pagamentos,

5 months Rio de Janeiro - RJ - Brasil,

Development of tools used by the internship.

Data analyses for payment solutions.

o Programs in Scala using Microsoft SQL Server and other tools

o API Rest, Data Streams, State Machines etc using Akka library

apr. 2018 **Engineering Internship**,

DEA - IRMV - TECH. VEH. INTELLIGENT - Renault, aug. 2018

5 months Technocentre Renault - Guyancourt - Île de France - France,

Development of supervision system for autonomous vehicle.

• Interface ROS/Simulink using C++, Python and Matlab/Simulink

State machine using Stateflow

nov. 2017 **Industrial Study Project**,

RTE - Réseau de Transport d'Électricité, apr. 2018

Rennes ↔ Paris, France, 6 months

Development and validation of automaton to optimize the insertion of Re-

newable Energies.

july 2017 **Engineering Internship**,

aug. 2017 Institut d'Électronique et de Télécommunication de Rennes,

2 months Rennes, France,

Study of voltage control in Distribution Nets.

- Simulation using PowerFactory
- o Interface between PowerFactory and Simulink
- o Automation of simulations with Python scripts
- Control Validation





aug. 2015 Scientific Initiation,

june 2016 Laboratório de Processamento de Sinais e Imagens Médicas, UFRJ,

11 months Rio de Janeiro, Brazil.

> Design of Secure Control for prosthetic robotic arm for muscle atrophy suffering patients

- Modeling and servomotors control
- Signal Processing

Rede Globo - Matriz, TV GLOBO,

- Central de Transmissão e Recepção de Sinais CTRS
  - Transmission et Réception de Signaux Audiovisuels par Satellites, Fibres Optiques et Internet
  - Traitement des Signaux

# **Teaching**

- 2021 **Tutoring**, CentraleSupélec,
- (6h) Rennes, France.
- 2022 **Tutoring**, ECAM,
- (30h) Rennes, France.
- 2022 **Tutoring**, *ECAM*,
- (18h) Rennes, France.
- 2022 **Tutoring**, CentraleSupélec,
- (15h) Rennes, France.
- 2022 Tutoring, CentraleSupélec,
- (12h) Rennes, France.
- 2021 **Tutoring**, CentraleSupélec,
- (12h) Rennes, France.
- 2021 Tutoring, CentraleSupélec,
- (10h) Rennes, France.
- 2020 Tutoring, CentraleSupélec,
- (18h) Rennes, France.

july 2014 Tutoring,

july 2015 Universidade Federal do Rio de Janeiro, UFRJ,

Rio de Janeiro, Brazil. 13 months

- Logic Circuits:
  - Algèbre de Boole, Machines de Mealy et de Moore.
  - Fonctions logiques combinatoires et séquentielles

#### Publication

#### 2022 Expectation-Maximization Based Defense Mechanism for dMPC.

9th IFAC Conference on Networked Systems NECSYS 2022 https://doi.org/10.1016/j.ifacol.2022.07.238

#### 2021 Detection and mitigation of corrupted information in dMPC based on resource allocation.

5th Conference on Control and Fault-Tolerant SYSTOL 2021 https://doi.org/10.1109/SysTo152990.2021.9595927

#### 2019 Identification Of A Mechatronic System.

Bachelor Thesis

http://repositorio.poli.ufrj.br/monografias/monopoli10029376.pdf

## IT Competences

Programming C, C++, Matlab, Scala, Python, Java, LADDER, Grafcet, Wolfram Language, Fanuc's TP, LATEX, SQL, Emacs Lisp, C#, Assembly, etc

Tools Git, Bash, ESTEREL'S SCADE Suite / export to VxWorks, SysML, UML, Tikz, Simulink, PowerFactory, Siemens' Step7, ROS, HTML, Fanuc's Roboguide, Trello, Asana, Jira, Confluence, Github Projects etc

Operating Linux and Windows Systems

### Languages

	Listening	Speaking	Reading	Writing
Portuguese	Native	Native	Native	Native
French	Fluent	Fluent	Fluent	Fluent
German	Basic	Basic	Basic	Basic
English	Fluent	Fluent	Fluent	Fluent

#### Prizes

 $3^{rd}$  Industrial Robotics Olympics - FANUC - France

#### Interests

- Programming - Smart Grids