

## Summary

I am a computer scientist finishing my Ph.D. in Electrical Engineering, seeking opportunities in the IT industry with excellent interpersonal skills. I have a strong background in developing prototypes and supporting research teams over the previous four years of teaching and research assistant experience. I also have strong knowledge of **machine learning** and **neural networks** and software development, especially in **Python** and **C++**, in addition to embedded systems, **IoT**, **ROS** and **tactile sensors**. I expanded this knowledge by teaching, among other topics, digital systems and operating systems during my experience at the University of Ottawa. During recent years I have worked with robotic object recognition and tactile sensing for object pose estimation. I also have around one and a half prior years of experience in software development within research laboratories.

## Work Experience

### University of Ottawa

Ottawa, Canada

#### TEACHING ASSISTANT

Sep. 2015 - PRESENT

- Provide insights to students on leading technologies, such as, **Python**, **C++**, **FPGA**, **VHDL**, **Android**, **Arduino**, **Linux**, among others.
- Assisted professors in eight different courses with group and one-to-one discussions in lectures, Q&A sessions and hands-on activities.
- A was TA for courses including but not limited to: **Computer Architecture**, **Capstone Project** and **Operating Systems**.
- Follow procedures know and abide by the policies and procedures the institution has in place

### University of Ottawa

Ottawa, Canada

#### RESEARCH ASSISTANT

Jan. 2015 - PRESENT

- Provide operational and administrative support to Research Manager, with several tasks among others, writing technical papers, implement testing methods, oversee experiments and produce results.
- Develop experiments using cutting edge techno which include but are not limited to: **C++**, **Python**, **Linux**, **micro-controllers**, **SoC**, **tactile sensors**, **IMU**, **robotic operating system** (ROS).
- Follow safety and health procedures in conformation to which the institution has in place.

### National Laboratory of Scientific Computing

Petrópolis, Brazil

#### RESEARCHER

Fev. 2014 - Aug. 2014

- Research on cryptography working with a team of PhD and master students implementing algorithms using **C++** and **Python**.
- Develop experiments using **Massively Parallel Processors** (MPI)

### Laboratory of Applied Computational Intelligence

Rio de Janeiro, Brazil

#### WEB DEVELOPER

Sep. 2013 - Aug. 2014

- Developed web application management of hydro reservoir used in energy generation with **C#** and **.Net**.

## Education

### University of Ottawa

Ottawa, Canada

#### PHD, ELECTRICAL AND COMPUTER ENGINEERING

Sep. 2014 - Exp. Dec. 2019

- Thesis Proposal: *Tactile sensing and in-hand manipulation*
- Technologies: **ROS**, **C++**, **machine learning**, data structures, tactile sensing, Inertial sensors, pressure sensors.
- Supervisor: Emil M. Petriu, Ph.D.
- Field: Robotics, in-hand manipulation, Sensors.

### IME - Military Institute of Engineering

Rio de Janeiro, Brazil

#### MSC, SYSTEMS AND COMPUTING

Fev. 2011 - Jun. 2013

- Master thesis: *Location system to support a domestic assistant robot using RSS and ZigBee*.
- Technologies: **Arduino**, **C++**, **ZigBee**, RSS, Serial communications.
- Supervisor: Professor Paulo Fernando Ferreira Rosa, Ph.D.
- Field: Smart Environments, Wireless Sensor Networks.

### UFT - Federal University of Tocantins

Palmas, Brazil

#### BSC, COMPUTER SCIENCE

May. 2006 - Exp. Dec. 2010

- Final Project: *People Recognition by the Step Sounds Using ART Type Self-Organizing Neural Networks*.
- Technologies: Signal processing, **Neural Networks**, **Python**.
- Supervisor: Rafael Lima de Carvalho, D.Sc.
- Field: Artificial Intelligence, **Smart Environments**, Neural Networks.

## Extracurricular Activity

### Parallel Programming with OpenCL e OpenACC

Petrópolis, Brazil

#### NATIONAL LABORATORY OF SCIENTIFIC COMPUTING

2013

- Course Load: 12h

# Software and Hardware Skills

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## PROGRAMMING LANGUAGES

- **Python**, **C++**, C, Java, C#, UNIX shell scripting, JavaScript, SQL, Matlab, Octave, R.
- **Pandas**, **SkLearn**, **Jupyter** Notebooks
- **ROS** (Robot Operating System)
- **Arduino** Platform, **Raspberry Pi** platform.
- **Git** version control system.

## OPERATING SYSTEMS

- **Linux**, Microsoft Windows, BSD, e other Unix variants.

## COMPUTER NETWORKING

- Wireless Networks (**XBee**, **ZigBee** radio modules).
- Networks (UDP, TCP, ARP, DNS, Dynamic routing), Linux Servers (Apache, SQL, POP, IMAP, SMTP), i2c, USB-serial.

## CAD AND DESIGN

- Solidworks, **FreeCAD**, **Eagle** (PCB design).

# Languages

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## ENGLISH

- Understands Well, Speaks Well, Reads Well, Writes Well.

## PORTUGUESE

- Native.

# References

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## Petriu M. Emil - Ph.D.

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- Professor, University of Ottawa, Electrical and Computer Engineering
- 800 King Edward Ave Ottawa, ON CANADA
- Professor Petriu is my PhD advisor.

## Thiago Eustaquio Alves de Oliveira - Ph.D.

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