GUILHERME FRÓES SILVA

PhD Researcher

⚲ Brisbane, Australia   in linkedin.com/in/codefroes   ⓘ orcid.org/0000-0003-4717-2742

CONTACT INFORMATION

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ACADEMIC QUALIFICATIONS

Doctor of Philosophy in Electrical Engineering

Queensland University of Technology

📅 Feb 2019 – Ongoing   ⚲ Brisbane, Australia

School of Electrical Engineering and Robotics

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Master of Philosophy in Electrical Engineering

PUCRS

📅 Aug 2015 – Aug 2017   ⚲ Porto Alegre, Brazil

Thesis "Real-Time Shadow Detection and Removal in Aerial Motion Imagery Application" submitted Aug 2017. GPA: 8.68/10

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BEng in Automation and Control Engineering

PUCRS

📅 2009 – 2015   ⚲ Porto Alegre, Brazil

Final year project "Project and Control of a Rotary Dual-Stage Actuator" inspired by the Dual-Stage Actuators of recent HDDs. GPA: 8.2/10

ACADEMIC EXCHANGE

Sandwich Program in Electrical Engineering

The University of Birmingham

📅 sep 2012 – sep 2013   ⚲ Birmingham, UK

One year program including taking several courses and 3 months placement at the Birmingham Centre for Railway Research and Education as an intern.

SKILLS

| C/C++ | CUDA | Python | OpenCV | Linux | Matlab |

| Image/Signal Processing | Control Systems | PLCs |

| Project Management | Problem solving | Critical thinking |

| Collaboration | Leadership | Time Management |

LANGUAGES

Portuguese	Native
English	TOEFL score: 104/120
Spanish	Elementary

SUMMARY

Currently a PhD Student in Queensland University of Technology. Holds a Master of Science Degree in Electrical Engineering from PUCRS - Brazil. Current research involves nonlinear control of interconnected systems. Knowledge in Image/Signal Processing and Control Engineering. Has strong multicultural competence.

ACHIEVEMENTS

QUTPRA
Was awarded with the QUT Postgraduate Research Award (2019)

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Student's Representative
Member of the PUCRS Graduate Program in Electrical Engineering Committee (2016-2017)

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United States Air Force Grant
Participated in the group researching the shadow problem. Funded by Air Force Office of Scientific Research, under project number: FA9550-15-1-0141 (2015-2017)

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Year-Abroad Scholarship
Intercultural and educational growth from a scholarship by the Science without Borders program in the United Kingdom (2012-2013)

REFEREES

Prof Jason J. Ford
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✉ Queensland University of Technology
Australia

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Dr Alejandro Donaire
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✉ The University of Newcastle
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Prof Aurélio Tergolina Salton
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Rio Grande do Sul, Brazil

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Prof Dario F. G. Azevedo
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✉ PUCRS
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Dr. Edward Stewart
@ e.j.c.stewart@bham.ac.uk
✉ University of Birmingham
United Kingdom

WORK EXPERIENCE

Lecturer (Professor Assistente)
PUCRS

📅 Feb 2018 – Dec 2018   📍 Porto Alegre, Brazil

Modules Taught:

- Industrial Automation
- Robot Programming
- Discrete-Event System Simulation
- Integrated Manufacturing Systems
- Control Systems Analysis (Laboratory)
- Modelling for 3D Printing

Research Assistant
LABIMA (Image Lab) - PUCRS

📅 Aug 2015 – Jan 2017   📍 Porto Alegre, Brazil

Research focused in automatic shadow removal from aerial images for the United States Air Force Grant regarding the shadow problem. In Jan 2016, visited The University of New Mexico and Transparent Sky.

Accomplishments
- Development of near-real time automatic shadow detection software powered by GPU processing, using OpenCV and CUDA technologies.
- Teaching Assistantship in undergraduate *Signals and Systems* course.

Internship Placement
Birmingham Centre for Railway Research and Education

📅 Jun 2013 – Sep 2013   📍 Birmingham, UK

Activities involved the development of projects and maintenance of machinery and equipment. Focus on requirement extraction, concept design, component selection, interfacing with 3rd party hardware, firmware development, embedded programming, real-time motor control, and mechanical design and construction.

Accomplishments
- Development of self-contained autonomous measurement system embedded on a Raspberry Pi.

RESEARCH EXPERIENCE

Detailed Research Experience

Research Assistantship
Worked as a Research Assistant within a United States Air Force Grant looking at an image processing methodology to remove shadows of aerial images. **From Aug 2015 to Jan 2018.**

Scholarship and Grants
Had a scholarship from Cordenação de Aperfeiçoamento de Pessoal de Ensino Superior (CAPES) covering tuition fees during his Masters of Science. **From Aug 2015 to Aug 2017.**

PUBLICATIONS

📄 Journal Articles

[1] Guilherme F. Silva et al. "Near real-time shadow detection and removal in aerial motion imagery application". In: *ISPRS Journal of Photogrammetry and Remote Sensing* 140 (2018). Geospatial Computer Vision, pp. 104–121. DOI: `https://doi.org/10.1016/j.isprsjprs.2017.11.005`.