

# Christopher Shneider Cerqueira

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## Experience

2018-now **Aeronautics Institute of Technology Faculty**  
ITA **Lecturing Subjects:**

- Fundamentals of Systems Engineering, Model based Systems Engineering (OPM/Capella/SysML), Verification and Quality of Systems, Space Mission Design, Space Ground Segment, Environmental Challenges and Risks in Space, and Concurrent Engineering.
- Responsible of the CEESR Course (Extension Course on Systems Engineering and Requirements Engineering), CE-MBSE (Extension Course on Model based Systems Engineering) and Systems Engineering topics lecturer. Responsible for the implementation of the CEOSE Course (Specialization Course on Space Systems' Operations), and lecturing Mission Architecture and Ground Systems Architecture. *[on demand requests from government and industries]*

### Projects and Grants:

- **2024-now - FUTURE-ADS Center:** Vice-head of the creation of the Future Research and Exploration ADS Center. Managing the implementation of the center. *[Received Grants in the order of \$4.600.577,83 dollars]*
- **2023-now - ITACube:** Professor in charge of the under graduation initiative where the students create cubists to be lift by balloons and perform low ionosphere experiments regarding radiation mapping. *[Received Grants in the order of \$ 92.011,56 dollars to be used into under graduation activities].*
- **2023-now - ITA-Ce:** Professor in charge of the specification of a syllabus and curriculum of a future Systems Engineering program to be implemented into ITA's new campus on the city of Fortaleza, state of Ceará. *[role as collaborator]*
- **2022-now - ADS-VD:** Head of the Air Domain Study - Virtual Demonstrator project. This project is part of a Brazil-Sweden (Linköping University / Saab) partnership into studies of the air domain of the future. This project establishes a multi-domain arena to demonstrate/simulate heterogenous systems. *[Received Grants in the order of \$1.000.000 dollars (in the time of receiving)]*
- **2022-now - ADS-SIMUA:** Academic head of the Air Domain Study - Safe Integration of different Manned and Unmanned Aircrafts into non-segregated air space. This project is also part of a Brazil-Sweden (Linköping University / Saab) partnership. This project simulates the safe integration from strategic to tactical conflict management into airspace with the inclusion of remote piloted aircrafts. *[Received Grants in the order of \$350.000 dollars (in the time of receiving)]*
- **2022-2024 - ITA Space Center:** Head of the Expansion project of the ITA Space Center in order to organize the grant, prepare the legal documentation and initiate the basic project. *[Received Grants in the order of \$386.448,54 dollars (in the time of receiving)]*
- **2022-2024 - ITA's Space Ground Station:** Head of the acquisition of a X/S-Band Satellite Antenna to be installed into the ITA's campus to students/researchers communicate with satellites. *[Received Grants in the order of \$920.115,57 dollars]*
- **2021-2022 - CyberSecurity MBSE:** Responsible for the MBSE implementation of a cybersecurity CONOPs and realization of joint-all domain war games to elicitate and test requirements. *[role as collaborating researcher]*
- **2018-2021 - SPORT:** Responsible for the MBSE, systems architecture, requirement definition, and software architecture of a Brazil-United States project in the area of ionospheric mapping of plasma bubbles and scintillation. *[role as collaborating researcher]*

- **2018-now - Air Force Projects' Reviewer:** reviewer of requirements and architectures of the major Air Force projects, contributing with improvements of Technical Requirements elicitation process. *[on demand]*
- **2018-now - Brazilian Space Agency Projects' Reviewer:** lifecycle reviewer of Brazilian Space Agency funded projects, specially into the first phases in order to organize the concept maturity level of the projects. *[on demand]*

#### Student statistics:

- 28 under-graduation final work supervision finished,
- 9 scientific initiation finished,
- 4 times selected as the honored professor of the Aerospace Engineering,
- 9 specialization course in space operations supervised finished,
- 7 master supervision completed.

#### 2012-2018 **Activities done during the Graduate Level education**

- INPE - **CubeSat Program Manager (INPE):** Program and Project management, K12/college divulgation and Electrical/Software Architect
- ITA - **Substitute Lecturer (ITA and UNIFEI):** Rocket Design and Mock-up Implementation, Virtual and Augmented Reality, Computer Organization and Architecture, C/C++.
- UNIFEI - **Event Organizer (INPE):** Responsible for INPE's annual Workshop in Space Engineering and Technology and tour guide in INPE visits.

#### 2011-2012 **Virtual and Augmented Reality Researcher**

- UNIFEI **Activity:** Development of user-interfaces into science museums.  
*A grant was received within the initial developments from my bachelor degree final work. [role as collaborating researcher]*

#### 2009-2009 **Computer Engineering Degree Apprenticeship**

- MEC-TRON **Activity:** Satellite onboard computer driver development using real-time operational system.

#### 2002-2003 **Technician Degree Apprenticeship**

- CWS **Activity:** USB-CAN converter/sniffer developing using Motorola HC908 microcontroller.

## Education

#### 2012-2018 **Master and PhD Degree on Space Systems Engineering and Management**

- INPE - **PhD Thesis:** Developed a Tangible User Interface (Spatial Augmented Reality interface and IoT artefact) to support a Model Based System Engineering collaboration at Space Systems Concurrent Engineering Concept Studies Facilities.
- **Master Dissertation:** Dissertation Project: Developed a XML based satellite simulator with real-time math parser, and a 3D simulation data navigation front-end to a Satellite Operational Simulator.

#### 2005-2010 **Bachelor Degree on Computer Engineering**

- UNIFEI - **Final Work:** Review and test of Augmented Reality technology to apply into interactive museums.

#### 1998-2003 **Technician Degree on Industrial Engineering**

- ETEP - **Final Work:** Color based Sedation with micro-controlled embedded visual processing software.

## Supplementary Formation

2019 Space Mission Engineering Course, given by Prof. James Wertz

2008 Satellite and Space Technologies Winter Course done at INPE.

2000-2001 High School Exchange Program - North Newton Jr./Sr. High School - Lake Village – IN – USA  
Cisco CCNA. Network Design. Certification period: 2001-2004