



Christopher Shneider Cerqueira

<http://www.cscerqueira.com.br>

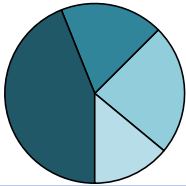
<mailto:christophercerqueira@gmail.com> / christopher@cscerqueira.com.br

<http://lattes.cnpq.br/6516110599667954>

https://www.researchgate.net/profile/Christopher_Cerqueira2

<https://www.linkedin.com/in/christophercerqueira/>

How would I describe myself?



- Workaholic
- Curious
- Team Work
- Crazy Ideas

Meta Description: *Bluesman, programmer, human-interface researcher, life-time student, geek, UX developer, computer engineer, spaceman...*

What I research: *Concurrent Engineering, Model Based System Engineering, Space Engineering, Small Satellites, Human Machine Interaction, Tangible User Interfaces, Augmented Reality, IoT, Graph Theory, Space 4.0, and Industry 4.0.*

Experience

- 2016-2018 **CubeSat Program Manager (CTEE)**
INPE Activities: Program and Project management, K12/college divulgation, and Electrical Architect.
- 2016-2016 **Air Force College Lecturer Apprenticeship**
ITA Subject: Rocket Design and Mock-up Implementation.
- 2013-2017 **Alumni Workshop Organizer (WETE)**
INPE Activities: Event planning, receiving papers, schedules, and proceedings publication.
- 2012-2012 **Federal University Substitute Lecturer**
UNIFEI Subjects: C Programming Language Introduction; Computer Architecture and Organization; Virtual and Augmented Reality.
- 2011-2012 **Virtual and Augmented Reality Researcher**
UNIFEI Activity: Development of Virtual and Augmented Reality Environments to Science Museums.
- 2009-2009 **Computer Engineering Apprenticeship**
MECTRON Activity: Development of drivers in C/C++ for onboard satellite computers using the SPARC architecture and RTEMS operational system.
- 2002-2003 **Junior Programmer Apprenticeship**
CWS Activity: USB-CAN converter/sniffer development using Motorola HC908.

Education

- 2014-2018 **Doctor Degree on Space Systems Engineering and Management**
INPE Thesis Project: Developed a Tangible User Interface (Spatial Augmented Reality interface and IoT artefacts) to support a Model Based System Engineering collaboration at Space Systems Concurrent Engineering Concept Studies Facilities.
- 2012-2014 **Master Degree on Space Systems Engineering and Management**
INPE 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 **Graduation on Computer Engineering Degree**
UNIFEI Final Work: Reviewed, and tested, Augmented Reality (AR) technologies to museums, based on: ARToolKit, OpenCV, and Wiimote.
- 1998-2003 **Industrial Computing Technician Degree**
ETEP Final Work: Embedded Spectral Analysis software to industrial colour selecting machine.

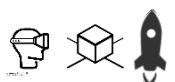
Supplementary Formation

- 2000-2001 **High School Exchange Program** - North Newton Jr./Sr. High School - Lake Village – IN – USA
- Cisco CCNA. Network Design.** Certification period: 2001-2004
- 2008 **CI-2008.** Satellites and Space Technologies Winter Course.

Other Skills



ARToolKit, ARToolKitPlus, OpenCV, Kinect, openFrameworks, C/C++, MATLAB-Simulink, IoT development (mostly Arduino, Raspberry, and ESP8266), small background in JavaScript (Material, Angular and GOjs) and Java, Software Engineering and Design Patterns. OPM, Capella (Sysml), CubeSats
Portuguese Native Language and English Fluent



Publications:

Book Chapter:

- KIRNER, C, CERQUEIRA, C. S., KIRNER, T. G., 2012, **Using Augmented Reality Artifacts in Education and Cognitive Rehabilitation**, Virtual Reality in Psychological, Medical and Pedagogical Applications, InTech, DOI: 10.5772/46416.

Journal:

- CERQUEIRA, C. S., AMBROSIO, A. M., KIRNER, C., 2015, **Building on-demand user-interfaces based in Projective Augmented Reality to Control Hardware (Arduino)** (Construção de interfaces on-demand baseadas em Realidade Aumentada Projetiva para Controle de Hardware (Arduino)), Tendências e Técnicas em Realidade Virtual e Aumentada, ISSN 2177-6776
- CERQUEIRA, C. S., RODRIGUES, I. P., MOREIRA, C. J. A., CARRARA, V., AMBROSIO, A. M., KIRNER, C., 2015, **Using Virtual, Augmented and Cross Reality in INPE's Satellite Simulators** (Utilização de Realidade Virtual, Aumentada e Cruzada em Simuladores de Satélites no INPE), Tendências e Técnicas em Realidade Virtual e Aumentada, ISSN 2177-6776
- CERQUEIRA, C. S., KIRNER, C., 2014, **Building Projective Cross Realities Applications using openFrameworks and Arduino** (Construção de aplicações de Realidade Cruzada Projetiva utilizando openFrameworks e Arduino), Tendências e Técnicas em Realidade Virtual e Aumentada, ISSN 2177-6776
- CERQUEIRA, C. S., KIRNER, C., 2013, **Introduction of openFrameworks in Virtual and Augmented Reality Applications Development** (Introdução à utilização de openFrameworks para o desenvolvimento de aplicações de RVA), Tendências e Técnicas em Realidade Virtual e Aumentada, v. 3, p. 250-278, ISSN 2177-6776
- CERQUEIRA, C.S., SANTOS, W. A., AMBROSIO, A. M., 2012, **Development of an Interface to a Spacecraft Simulator Empowered by Virtual Reality**, SBC Journal on 3D Interactive Systems, volume 3, number 3, ISSN: 2236-3297
- CERQUEIRA, C. S., KIRNER, C., 2011, **Development of an Augmented Reality Application of Polygon Revolution and Extrusion** (Desenvolvimento de uma aplicação de realidade aumentada sobre conceitos de revolução e extrusão de polígonos), 2011, Revista Renote – Novas Tecnologias na Educação, v. 9, n. 2. ISSN 1679-1916

Conference:

- JESUS, G. T., CHAGAS JUNIOR, M. F., CERQUEIRA, C. S., LIMA, J. S., DINIZ, G., 2017, **Risk Management of the Initial Phase of a Educational/Technological Space Mission** (Gerenciamento de riscos na fase inicial de uma missão espacial de iniciativa educacional e tecnológica), 8º Workshop em Engenharia e Tecnologia Espaciais, INPE
- RODRIGUES, I. P., GÓES, R., CERQUEIRA, C. S., AMBROSIO, A. M., 2017, **Data Collection Subsystem Modelling and Simulation using Simulink**, 8º Workshop em Engenharia e Tecnologia Espaciais, INPE
- BÜRQUER, E., LOUREIRO, G., MARIÑO, G. G. C., CERQUEIRA, C. S., 2017, **CubeSat Alfa Mission Description** (Descrição da missão do CubeSat Alfa), 8º Workshop em Engenharia e Tecnologia Espaciais, INPE
- CERQUEIRA, C. S., AMBROSIO, A. M., SANTOS, O. F., GEUS, I., BARROS, L., 2017, **Description of Behaviour Models in OPM to an Operational Satellite Simulator** (Descrição do comportamento de modelos para um Simulador Operacional de Satélites em OPM), 8º Workshop em Engenharia e Tecnologia Espaciais, INPE
- CERQUEIRA, C. S., AMBROSIO, A. M., KIRNER, C., 2017, **Using ISO-19450 to Describe and Simulate a Smallsat Operational Scenario**, 8º Workshop em Engenharia e Tecnologia Espaciais, INPE
- CERQUEIRA, C. S., AMBROSIO, A. M., KIRNER, C., 2016, **A Model Based Concurrent Engineering Framework using ISO-19450 Standard**, 7th International Conference on Systems & Concurrent Engineering for Space Applications - SECESA 2016, Universidad Politécnica de Madrid (UPM), Spain
- CERQUEIRA, C. S., SILVA, P. D., RODRIGUES, I. P., AMBROSIO, A. M.; VILLANI, E., 2016, **Two Independent Processes of Verification Applied to a Satellite Simulator**, 7º Workshop em Engenharia e Tecnologia Espaciais, INPE
- RODRIGUES, I. P., AMBROSIO, A. M., CERQUEIRA, C. S., 2016, **A Framework for Automated Model Validation Applied to Picosatellite Electrical Power Subsystem**, 7º Workshop em Engenharia e Tecnologia Espaciais, INPE
- RODRIGUES, I. P., AMBROSIO, A. M., CERQUEIRA, C. S., 2016, **Towards an Automated Hybrid Test and Simulation Framework to Functional Verification of Nanosatellites' Electrical Power Supply Subsystem**, Latin American IAA CubeSat Workshop
- YASSUDA, I. S., OLIVEIRA, M. E. R., LOPES, I M L, MORAIS, M. H. E., GONDO, S. M. H., OLIVEIRA JUNIOR, E. M., CERQUEIRA, C. S, NONO, M. C., 2015, **Creating and maintaining a workshop for graduate course**

in space engineering and technology and its usefulness to the training of future researchers. ITST – International Symposium on Space Technology and Science. Japan

- CERQUEIRA, C. S., AMBROSIO, A. M., KIRNER, C., SOUZA, F. L., 2014, **Structuring a Cross-Reality Environment to support a Concurrent Engineering Process for Space Mission Concept**, 6th International Conference on Systems & Concurrent Engineering for Space Applications - SECESA 2014 - 08-10 October, Vaihingen Campus, University of Stuttgart, Germany
- CERQUEIRA, C.S., SANTOS, W. A., AMBROSIO, A. M., 2013, **Serious Game Interaction Techniques Applied to an Operational Satellite Simulator**, SBGames, São Paulo, ISSN: 2179-2259
- TOMINAGA, J., CERQUEIRA, C.S., KONO, J., AMBROSIO, A. M., 2012, **Specifying Satellite Behavior for an Operational Simulator**, SESP 2012: Simulation and EGSE facilities for Space Programmes, ESTEC ~Noordwijk, 25-27 September 2012
- CERQUEIRA, C. S., KIRNER, C, 2012, **Development of a low cost Virtual Reality Environment based in Augmented Reality** (Desenvolvimento de Ambiente de Realidade Virtual de Baixo Custo baseado em Realidade Aumentada), no 9º Workshop de Realidade Virtual e Aumentada, WRVA 2008, Paranavaí.
- KIRNER, C, CERQUEIRA, C. S., KIRNER, T. G., 2012, **Dynamic spatial positioning system based on sounds and augmented reality for visually impaired people**, nos Anais do 9th Intl Conf. Disability, Virtual Reality & Associated Technologies ICDVRAT, Laval, France, 10–12 Sept. 2012, ISBN978-0-7049-1545-9
- CERQUEIRA, C. S., KIRNER, C., 2012, **Developing Educational Applications with a Non-Programming Augmented Reality Authoring Tool**, EdMedia 2012, Denver, CO
- KIRNER, C, CERQUEIRA, C. S., KIRNER, T. G., FLAUZINO, F. S., 2012, **Design of a Cognitive Artifact based on Augmented Reality to Support Multiple Learning Approaches**, EdMedia 2012, Denver, CO
- SILVA, R. C., CERQUEIRA, C. S., KIRNER, C, 2011, DRUMMOND, I. A., COSTA JUNIOR, R. A., KIRNER, T. G., JESUS, E. O, 2011, **Virtual Guide of Content with Augmented Reality** (Guia Virtual de Conteúdo com Realidade Aumentada), no 8º Workshop de Realidade Virtual e Aumentada, WRVA 2008, Uberaba.
- CERQUEIRA, C. S., KIRNER, C, 2011, **basAR: Behavioral Authoring System for Augmented Reality** (basAR: Ferramenta de Autoria de Realidade Aumentada com Comportamento), no 8º Workshop de Realidade Virtual e Aumentada, WRVA 2008, Uberaba.
- CERQUEIRA, C. S., KIRNER, C, 2011, **Action Points Behaviour Programming in Augmented Reality Applications** (Programando Comportamento de Pontos de Ação em Aplicações de Realidade Aumentada), no 8º Workshop de Realidade Virtual e Aumentada, WRVA 2008, Uberaba.
- CERQUEIRA, C. S., KIRNER, C., JESUS, E. O., DRUMMOND, I. N., COSTA JUNIOR, R. A., 2009, **Augmented Reality Structuring to the Museum Theodomiro Santiago** (Estruturação do Museu Theodomiro Santiago com Realidade Aumentada), no 6º Workshop de Realidade Virtual e Aumentada, WRVA 2009, Santos.