GABRIEL GUSTAVO CORONEL MARIÑO

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Electrical engineer with emphasis in Telecommunications and MSc. in Space Systems Engineering and Management with 10 years of experience in the space industry mainly with Systems Engineering and AIT. Participation in several activities related to most of the space project phases (i.e. 0/A/B/C/D/E). Studies in space systems include an MSc. (INPE/Brazil), a 6-month training in Space Technology (CAST/China), and a development program in Space Technology Management and Operation (ABAE/Venezuela). Experience of approximately 5 years as an AIT Engineer. Highly motivated and committed to working on space systems projects. Good problem solver and fast learner. Focused, disciplined, and a hard worker.

SKILLS AND VALUES

•Hard worker •Focused •Disciplined •Responsible •Perseverant •Committed •Good problem solver •Fast learner •Collaborative •Ability to use several software •Programming capacity •Simulation skills

RELEVANT WORKING EXPERIENCE

Innovation Solutions in Space (ISISPACE)	02/2022 - currently

Position: Senior System AIT Engineer	02/2022 - currently

Projects:
1U Platform – Orbital Solutions Monaco (OSM) (February 2022 - Present)
3U Platform – University of Leicester (February 2022 - Present)

National Institute for Space Research (INPE)	09/2014 - 01/2022

Position: AIT Engineer	05/2017 - 01/2022

Project:
SDR TM/TC Station (May 2021 – January 2022)
Project description:
Development of a Software-Defined Radio (SDR) Telemetry and Telecommand (TM/TC) station compatible with specific ECSS and CCSDS standards to be used in future AIT campaigns at INPE
Main activities:
•Studies on applicable technologies (e.g. FPGA and COTS SDR)
•Studies on applicable standards (e.g. ECSS Packet Utilization, CCSDS TM, TC and Space Packet Protocols)
Relevant tools:
Quartus Prime, GNU Radio, SDR, FPGA

Project:
Amazonia-1 Satellite (May 2017 – April 2021)
Project description:
Assembly, Integration and Test (AIT) of a ≈600-kg Low Earth Orbit (LEO) Remote Sensing Satellite
Main activities:
•Assembly, Integration and Test (AIT) of Amazonia-1 Electrical Model (EM)
•Assembly, Integration and Test (AIT) of Amazonia-1 Flight Model (FM)
•Radio Frequency (RF) subsystems (i.e. TT&C and AWDT) electrical integration and functional tests, including:
    -Preparation of test procedures
    -Preparation of test setups
    -Preparation and configuration of test equipment and systems (e.g. EGSE/SCOE)
    -Preparation and debugging of test scripts
    -Execution of tests
    -Preparation of test reports
    -Notification of non-conformances
•Participation in the definition and execution of the whole satellite functional and environmental tests (e.g. Electromagnetic Compatibility, Thermal Vacuum, Magnetic Balance, Acoustic and Vibration)
•Participation in the launch campaign at the Satish Dhawan Space Centre (SHAR) in Sriharikota, India

- Participation in the Launch and Early Orbit Phase (LEOP) at INPE's Satellite Control Center
- Execution of electrical incoming inspections of several subsystems
- Support of satellite operations during AIT campaign

Relevant note:
For a 6-month period, I acted as the whole satellite electrical tests responsible. In this position, I mainly performed the following activities:
- Satellite electrical tests planning, coordination and execution
- Satellite operation
- Execution of daily meetings to discuss AIT status and progress
- Preparation of documents for AIT phase reviews (Test Readiness Reviews TRR and Test Review Boards TRRB)
- Identification and notification of open points and non-conformances
- Verification of implementations for solving open points and non-conformances

Relevant tools:
Signal Analyzer, Power Meter, Signal Generator, Frequency Counter, VNA, Oscilloscope, LabView, Cortex, Excel VBA

Project:
CBERS-4A Satellite (May 2017 - December 2019)

Project description:
Assembly, Integration and Test (AIT) of a ≈1700-kg Low Earth Orbit (LEO) Remote Sensing Satellite

Main activities:
- Support during the Assembly, Integration and Test (AIT) of CBERS-4A Flight Model (FM) with Radio Frequency (RF) subsystems (i.e. TT&C and DCS) electrical integration and functional tests, including:
    - Initial preparation and configuration of test equipment and systems (e.g. EGSE/SCOE)
    - Participation in Thermal Vacuum tests
    - Participation in the launch campaign at the National Space Science Center (NSSC) in Beijing, China

Relevant tools:
Signal Analyzer, Power Meter, Signal Generator, Frequency Counter, VNA, Oscilloscope, LabView, Cortex, Excel VBA

Position: Systems Engineer   09/2014 - 04/2017

Project:
Strategic Program for Space Systems (PESE)

Project description:
Definition of the preliminary mission requirements for PESE program

Main activities:
- Participation in activities mostly related to Phases 0 and A of satellite projects
- Definition of preliminary orbital parameters
- Execution of preliminary mission analysis
- Assessment of potential platforms, payloads, and technologies for a remote sensing satellite mission
- Support to the definition of technical mission requirements
- Studies on systems engineering processes and standards
- Development of a course on orbital design and STK simulations
- Evaluation of a Concurrent Design Platform tool

Relevant tools:
STK, MATLAB, GMAT, IBM Rational DOORS, IBM Rational Rhapsody, Concurrent Design Platform

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Project:
CubeSats Testing Service

Project description:
Support on the definition of AIT plans and tests of CubeSats for several clients

Main activities:
- Definition of test profiles for several clients
- Interface with other groups within the Integration and Tests Laboratory (LIT) to quote the requested tests
- Support clients during the AIT campaign of their CubeSats

Bolivarian Agency for Space Activities (ABAE)	06/2013 - 05/2014

Position: Systems Engineer

Project: Design, Manufacturing, and Control of Low Earth Orbit (LEO) Satellites
Project description: Development of human resources on the design, manufacturing, and control of LEO satellites for the Research and Development Center (CIDE)
Main activities:
- Participation in activities mostly related to Phases B and C of satellite projects
- Studies on mission analysis.
- Definition of interfaces between the systems engineering team and other teams
- Participation in training in space technologies delivered by the China Academy of Space Technology (CAST)

Previous Work Experience

Main activities:

MUNDO C0R0N3L, C.A. (January 2011 - August 2014)
- Service and retail sales of computers, cellphones and accessories
- Several responsibilities, such as sales, marketing, customer service, hardware and software troubleshooting

Engineer Assistant (March 2013 - April 2013)
- Installation and configuration of routers and VSAT antennas
- Troubleshooting of local data and telephone networks

Central University of Venezuela (UCV) (March 2008 - January 2009)
- Teaching assistant on Delphi, Pascal and C++ programming languages

Relevant tools:
Borland Delphi, Turbo Pascal, Builder C++, Scilab, MATLAB, NetBeans, and Eclipse.

EDUCATION

National Institute for Space Research (INPE)	03/2015 - 03/2017

MSc. in Space Systems Engineering and Management
Relevant skills developed:
- Space systems   •Space mission development processes   •Verification & Validation
- Assembly, Integration and Tests (AIT)   •Systems engineering

China Academy of Space Technology (CAST)	06/2013 - 12/2013

Technical Training in Space Technology
Relevant skills developed:
- Space systems   •Spacecraft engineering   •Spacecraft subsystems   •Orbit dynamics   •Remote sensing
- Mission Analysis   •Assembly, Integration and Tests (AIT)   •Project Management

Bolivarian Agency for Space Activities (ABAE) & UNEFA	07/2012 - 09/2012

Professional development program in Space Technology Management and Operation
Relevant skills developed:
- Space systems   •Space segment   •Ground segment   •Satellite Operations

Cisco Networking Academy	01/2012 – 05/2013

Specialization in Data Networks – Cisco Certified Network Associate (CCNA) Exploration
Relevant skills developed: •Data Networks

Central University of Venezuela (UCV)	10/2005 - 12/2011

Bachelor's degree in Electrical Engineering with emphasis in Telecommunications
Relevant skills developed:
- Satellite communication systems design   •Radiofrequency systems   •Telecommunication systems

RELEVANT ATTENDED COURSES

- Using Python to Access Web Data (19 hours) – *March 2022 – Univ. of Michigan & Coursera*
- FPGA Softcore Processors and IP Acquisition (10 hours) – *March 2022 – Univ. of Colorado Boulder & Coursera*
- Python Data Structures (19 hours) – *December 2021 – Univ. of Michigan & Coursera*
- Programming for Everybody (Getting Started with Python) (19 hours) – *September 2021 – Univ. of Michigan & Coursera*
- Hardware Description Languages for FPGA Design (36 hours) – *August 2021 – Univ. of Colorado Boulder & Coursera*
- Designing RF Communication Systems using SDRs with GNU Radio (3.5 hours) – *August 2021 – Udemy*
- Training in FPGA Intel Technology (20 hours) – *July 2021 – Macnica DHW*
- Introduction to FPGA Design for Embedded Systems (18 hours) – *July 2021 – Univ. of Colorado Boulder & Coursera*
- Requirements Engineering (60 hours) – *June 2021 – National Institute for Space Research (INPE)*
- Introduction to Satellite Communications (33 hours) – *March 2021 – Institut Mines-Télécom & Coursera*
- Entrepreneurship and Innovation (30 hours) – *March 2021 – Qualifica São José & CEPHAS*
- Daily Work Routine Management (6 hours) – *February 2021 – Qualifica São José & Valore Academy*
- Startup Sprint Acceleration Program (36 hours) – *February 2020 – Evolve MVP*
- Electrostatic Discharge (ESD) Control (8 hours) – *July 2017 – National Institute for Space Research (INPE)*
- Introduction to Systems Engineering (36 hours) – *September 2016 – University of New South Wales (UNSW) & Coursera*
- Introduction to Fluid Dynamics Simulation with ANSYS FLUENT (32 hours) – *September 2016 – ESSS Institute*
- STK Advanced Virtual Training (12 hours) – *August 2016 – Analytical Graphics, Inc. (AGI)*
- Basic MATLAB (20 hours) – *May 2016 – National Institute for Space Research (INPE)*
- IBM Rational Rhapsody Gateway Add-on Training v7.5 (16 hours) – *January 2016 – OneForce*
- IBM Rational Rhapsody v7.5.2 Model Based Systems Engineering Workflow (24 hours) – *November 2015 – OneForce*
- AUTOCAD 2016 (2D - 3D modeling) (40 hours) – *November 2015 – National Institute for Space Research (INPE)*
- IBM Rational DOORS Practitioner v9.3 (8 hours) – *October 2015 – OneForce*
- IBM Rational DOORS Information Architect v9.3 (8 hours) – *October 2015 – OneForce*
- Essentials of IBM Rational Rhapsody for Systems Engineers v7.6.1 (24 hours) – *October 2015 – OneForce*
- Antennas: Basic Concepts, Design and Measures (24 hours) – *October 2015 – OneForce*
- Systems Engineering (40 hours) – *December 2014 – Project Performance International (PPI)*
- PROJECT: Project Planning and Definition (24 hours) – *July 2014 – Central University of Venezuela (UCV)*
- Space Project Management (40 hours) – *June 2014 – Bolivarian Agency for Space Activities (ABAE)*
- J2ME – Mobile Devices Java Applications (60 hours) – *March 2012 – National Technological University (UTN) & Institute CBTech*
- Television Engineering (30 hours) – *March 2010 – Venezuelan National Telecommunications Commission (CONATEL)*
- Wireless Local and Personal Area Networks (32 hours) – *April 2009 – Central University of Venezuela (UCV)*

LANGUAGES

Spanish – Native language	**Portuguese – Fluent**
English – Fluent	**Italian - Intermediate**

RELEVANT SOFTWARE TOOLS USED

- STK •MATLAB •GMAT •IBM Rational DOORS •IBM Rational Rhapsody •MS Project •MS Word •MS Excel •MS PowerPoint •Wireshark •LabView •Bizagi •TMViewer •SATCS •Quartus Prime