Grace Abigail Luna Verdueta

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OBJECTIVE

Self-motivated and adaptable engineer with experience in real-time control systems for a microsatellite development, and advanced programming. Skilled in teamwork and problem-solving under pressure, with international training in AI, cloud, and 5G (Huawei scholarship). Actively engaged in STEAM outreach and seeking opportunities to apply and expand these skills in innovative projects.

WORK EXPERIENCE

DRONTEC (Drones & tecnología S.R.L.) *June 2024 – September 2024*
Technical Assistant in Drone Diagnostics and Piloting *La Paz, Bolivia*

- Performed maintenance, repairs, software updates, and sensor calibrations for DJI drones.
- Managed the entire diagnostic and testing process, ensuring optimal performance.
- Optimized workflows, increasing weekly repair efficiency by 50%.

Student Scientific Society of Mechatronic Engineering *January 2024 – December 2024*
Researcher in Control Systems *La Paz, Bolivia*

- Designed and implemented an angular velocity controller for a microsatellite using Simulink and STM32, achieving a stabilization time of 6000 seconds.
- Conducted state-of-the-art research on microsatellite control systems for the development of a scientific article.
- Integrated serial data communication and TCP/IP protocols for real-time system validation, achieving a latency of 20 milliseconds.

Universidad Católica Boliviana *February 2024 – June 2024*
Assistant in Laboratory and Advanced Control Systems Theory *La Paz, Bolivia*

- Supervised 10 laboratories implementing PID, Pole Placement, ON-OFF, LQR, LQG controllers in Matlab and Simulink using a 3 DOF Quanser helicopter.
- Facilitated advanced control systems theory to 40 students.

Universidad Católica Boliviana February 2022 – December 2022
Assistant in Laboratory and Electronic Circuit Theory *La Paz, Bolivia*

- Designed a question bank of 40 exercises related to analog electronic circuit analysis using LTspice.
- Supervised and graded 10 electronic circuit laboratories using GW Instek instrumentation devices.

LEADERSHIP EXPERIENCE

STEAM Instructor and Educator *September 2024 – April 2025*

- Delivered STEM workshops on space exploration and aerodynamics to over 5,800 children across four schools and Fundación Alalay, combining theory with hands-on activities.
- Designed and taught a holiday OpenRocket course, integrating practical simulations with foundational concepts in flight dynamics.

EDUCATION

Universidad Católica Boliviana *2020 (II) – Present*
Mechatronic Engineering (10th semester)) *La Paz, Bolivia*

- Graduated, classification: (85/100)
- Active member of the student scientific society
- Awarded for the best project in Introduction to Mechatronic Engineering

Universidad Mayor de San Andrés *2020 (II) – Present*
Computer Science – Artificial Intelligence & Data Science (3rd semester) *La Paz, Bolivia*

- Relevant courses completed: Web Programming and Computer Laboratory, Digital Fundamentals and Computer Organization, Algorithms and Programming, Programming Lab, Discrete Mathematics.

Associate Degree in Computer Science *2018 – 2019*
INSTITUTO AMERICANO *La Paz Bolivia*

"Backpack" & "Teens" Program – Basic & Intermediate English *2010 – 2015*
CENTRO BOLIVIANO AMERICANO *La Paz Bolivia*

"Top Notch y Summit" Program – Advanced English *2016 – 2019*
CENTRO BOLIVIANO AMERICANO *La Paz Bolivia*

- Honor Student

Classic Guitar – Intermediate - Advanced *2011 – 2020*
CONSERVATORIO PLURINACIONAL DE MÚSICA *La Paz Bolivia*

- Honor Student

PUBLICATIONS

Model-Based Design and Testbed for CubeSat Attitude Determination and Control System with Magnetic Actuation (2024)
Applied Sciences, MDPI, Switzerland. DOI: https://doi.org/10.3390/app14146065

AWARDS & OTHER SCHOLARSHIPS

- Participated in the **Hydrobot** Project in collaboration with the **CFLI of the Canadian Embassy**, developing an autonomous aquatic vehicle for water sampling and heavy metal detection. Conducted field testing in Río Desaguadero, Puente Español, and Achocalla, and led embedded systems development. Recognized for contributions to research, innovation, and STEM outreach in rural Oruro. **(Bolivia, 2024 - 2025)**
- Participated with team VEMEC in the **NASA Human Exploration Rover Challenge 2025**, designing and operating a lunar terrain vehicle. Ranked in the **top 5** during one competition day and received the Social Media Award for documenting mechanical work and **STEAM** outreach. **(Huntsville, Alabama, USA, April 2025)**
- Secured 2nd place at the FUNCTEC Engineering Career Fair with our innovative mine-detecting robot powered by ROS2. This achievement highlights our project as one of the top two engineering endeavors at the university. **(La Paz/Bolivia, October 2024)**
- Selected as one of the top 10 Bolivian university students for the "Seeds for the Future" program. Scholarship awarded by **Huawei** to receive instruction and mentorship from industry experts in AI, 5G, and Cloud Computing. **(China, June/2024)**
- Awarded a scholarship by the **U.S. Embassy** to participate in the international mentoring program Conecta Mentora. Chosen for my academic excellence and leadership potential. **(La Paz/Bolivia, 2024 - 2025)**
- Honorable Mention in the "Chukuta Developer" programming contest, held nationwide at the Universidad Católica Boliviana "San Pablo". **(La Paz, Bolivia/2023)**
- Scholarship recipient in the "ENGLISH YES" program, offered by the United States Embassy. **(La Paz, Bolivia 2020 - 2022)**
- 2nd place in the National Guitar Competition, organized by the Conservatorio Plurinacional de Bolivia in Tarija. **(La Paz/Bolivia, 2019)**

COMPLEMENTARY EDUCATION

- Introduction to Front-End Development, Google Meta. *(07, 2025)*
- Certification in SOLIDWORKS Sustainability Associate. *(12/2024)*
- Certification in PLC and HMI Programming with TIA Portal, Universidad Católica Boliviana "San Pablo". *(05/2024)*
- MATLAB Certification, Centro de capacitación ¨CEPRA¨. *(10/2023)*
- Certification in Object-Oriented Programming with Python, Universidad Mayor de San Andrés. *(07/2023)*
- PCB Manufacturing Techniques Certification, Universidad Católica Boliviana "San Pablo". *(04/2022)*

LANGUAGES & SKILLS

Languages:	English (B2), Spanish (Native)
Soft-skills:	Teamwork, Punctuality, Commitment, Dynamism, Attention to detail, Determination, Proactivity, Resilience.
Softwares:	Python, C++, JavaScript, C#, HTML, ROS 2, KRL (KUKA Robot Language), Matlab/ Simulink, Solidworks, Proteus, LT Spice, Autodesk Inventor, Bobcad, Ultimaker Cura, Vivado, Keil uversion, Cube Mx, Jupiter, MCU programming (STM y ARM), Linux.

UNIVERSIDAD CATÓLICA BOLIVIANA
LA PAZ

La Paz, April 29th, 2025

To whom it may concern,

REF.: LETTER OF RECOMMENDATION – GRACE ABIGAIL LUNA VERDUETA

I am pleased to write this letter to highly recommend Ms. **Grace Abigail Luna Verdueta**. I have had the privilege of knowing her during her academic journey in my role as Head of Department, as her professor in lectures such as Pre-professional Practices and Superior Engineering Design, as well as a mentor for research projects she was involved in during her studies in the Mechatronics Engineering program at the Universidad Catolica Boliviana "San Pablo," campus La Paz.

Grace also participated in the "Bolivian 1U CubeSat Project", and is co-author of the article "Model-Based Design and Testbed for CubeSat Attitude Determination and Control System with Magnetic Actuation," published in the journal Applied Sciences (MDPI). Additionally, she served as a lab assistant for "Advanced Control Systems" and "Electronic Circuits", supporting the education of over 150 students.

As previously mentioned, she was part of the Bolivian team in the "2025 NASA Human Exploration Rover Challenge" held in Huntsville, Alabama, USA, where they ranked in the Top 10 and won the "Social Media Award" for their STEM outreach activities, which benefited over 5,000 children across Bolivia.

She also took part in the "Hydrobot Project", managed by the Embassy of Canada, where she contributed to the development of an autonomous aquatic robot with a focus on mechanics, electronics, ROS2-based navigation, and programming.

Grace was selected for Huawei's competitive "Seeds for the Future" program, which trains top Bolivian students in Artificial Intelligence, 5G, and Cloud Computing. She is also part of the international mentorship program "Conecta Mentora", supported by the U.S. Embassy, and won second place at the "FUNTEC 2024 Engineering Fair" with a ROS2-based mine-detecting robot.

In summary, I have no doubt that Grace will be a valuable asset to any postgraduate program or future professional role, applying her skills, knowledge, and strong values that distinguish her as both a person and a professional. Please feel free to contact me if you require any additional information.

Sincerely,

MSc. Fabio Diaz Palacios
Head of Mechatronics Engineering Department
Engineering Faculty
"Universidad Católica Boliviana San Pablo" campus La Paz
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