

Sergio Alejandro Rosales Vargas

STUDENT · M.Sc. SPACE ENGINEERING

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“Aim to the stars.”

POLARIS Raumflugzeuge GmbH Hiring Manager

March 18, 2025

ZUM PANREPEL 11
28307 BREMEN

Reference: Application for “GNC Engineer”

Dear Hiring Manager,

My name is Sergio Rosales, and I am writing to express my interest for the position of *GNC Engineer* at POLARIS. With my background in design of robust systems, hands-on experience in R&D, and involvement in diverse software development projects, I am confident that my skills are well suited for the position.

During my Master in Space Engineering project I focused on control theory, orbital mechanics and trajectory optimization. My recent involvement in the thermal engineering team at ArianeGroup further deepened my understanding of aerospace design processes and reinforced my ability to work in multidisciplinary teams. In addition to that, during time in IMEMED, I led the electronics design team, working in embedded systems development, which involved solving complex technical challenges in real-world applications.

Additionally, as a member of the avionics team in the student initiative ASTRA e.V., I contributed to the design of a rocket that aims to reach the Kármán line. My experience there included the use of sensor fusion for attitude determination. Similarly, at AGROINBO, I automated an almond dehydration system with a PI PLC-controlled closed-loop architecture. This required balancing thermal dynamics of the system; a knowledge transferable to the optimization of GNC subsystems. While my direct experience in flight controller coding is minimal, my proficiency in Python and MATLAB/Simulink provides a strong foundation for rapid upskilling in trajectory optimization tools like STK or ROS.

I share POLARIS Raumflugzeuge GmbH's commitment to innovation, efficiency, and technical excellence. This makes me eager to seize the opportunity of growing my leadership skills, refining collaborative problem-solving in multidisciplinary environments and expanding my professional knowledge.

I'm ready to bring my experience in embedded systems and start as a GNC engineer in the company bringing my technical and leadership skills to the field. I appreciate your consideration and welcome the opportunity to discuss the position.

I look forward to your reply.

Sincerely,

Sergio Alejandro Rosales Vargas