

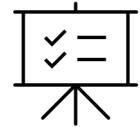
Cartas de Motivação Acadêmicas

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Ph.D. Student in Aerospace Engineering
University of Colorado Boulder



Sumário



Objetivo



Minha trajetória



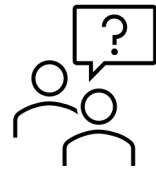
Processo para estudar nos Estados Unidos



Cartas de motivação acadêmicas

Objetivo

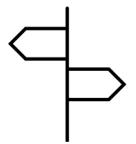
Objetivo



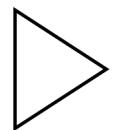
O que é uma carta de motivação



Estrutura de uma carta de motivação



O que incluir e o que não incluir



Por onde começar



Exemplo de um *Statement of Purpose*
(carta de motivação acadêmica)



Minha Trajetória

Minha Trajetória



2013

4º Lugar na Olimpíada
de Química do RS



2014

4º Lugar na Olimpíada
de Química do RS



2015

1º lugar no vestibular
para Eng. Aeroespacial
Entrei para o programa
NANOSATC-BR



2016

1ª apresentação de
trabalho em conferência
internacional

Minha Trajetória



2017

Apresentação de trabalho em Roma

2018

Aprovado para Summer Course na universidade de Samara - SSAU

2019

1º lugar na 2º Latin American CubeDesign Competition na categoria de CanSats
Estágio no INPE e ITA

Apliquei para mestrados no exterior

2020

Graduação na UFSM

Início do mestrado no ITA

Participação na WorldSkills Russia

Minha Trajetória



2021

Trabalho aceito para
publicação na *Aerospace
Science and Technology*

Intercâmbio Work and Travel

2022

Conclusão do mestrado

Contratado na AEL

Casamento

Mudança para os EUA

Aplicação para doutorado nos EUA

2023

Trabalho voluntário no
Museu de História Natural
na *Harvard University*

Aceito para PhD



Processo para estudar nos Estados Unidos

Processo para estudar nos EUA



Pesquisar universidades – ver lista de universidades com programas de interesse



Ver professores e projetos de pesquisa



Entrar em contato com professores de interesse com antecedência (opcional)

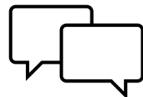


Realizar provas necessárias - TOEFL, GRE, Duolingo



Tradução de documentos - histórico escolar, diploma

Processo para estudar nos EUA



Conversar com professores para pedir cartas de recomendação (com antecedência); dar dicas do que incluir na carta – mandar modelo de carta



Preparar essays



Aplicar



Realizar entrevistas (às vezes)

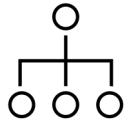


Esperar o resultado



Cartas de Motivação Acadêmicas

Cartas de Motivação Acadêmicas



Também podem ser chamadas de:

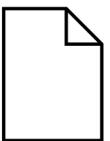
- Statement of Purpose
- Statement of Interest
- Personal statement



Demonstram seus interesses, objetivos de pesquisa e quem você é



Verificar o que a universidade pede que seja incluído na carta



Tamanho: 1 a 2 páginas

Cartas de Motivação Acadêmicas

Deve incluir:



Trajetória acadêmica e história pessoal



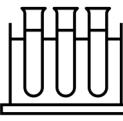
Explicar o motivo de querer estudar naquela universidade



Como a universidade pode contribuir na sua trajetória



Como você pode contribuir com a universidade



Objetivos de pesquisa



Objetivos futuros

Cartas de Motivação Acadêmicas

Como Esboçar:

-  Preparar linha do tempo da sua vida – experiências mais relevantes
-  Entender como as experiências te levam ao mestrado/PhD
-  Pesquisar universidades, professores, e projetos
-  Ler trabalhos mais atuais dos professores
-  Entender como se encaixar nas pesquisas atuais

Cartas de Motivação Acadêmicas



Trajetória acadêmica e história pessoal

As a six-year-old kid, I used an old pipe as a telescope to look at the stars, wondering if any of the naive spacecraft sketches I draw would one day become real and explore other worlds. This curiosity and imagination made me passionate about science. As a result, during high school, I achieved fourth place at my state's chemistry competition twice and used my free time to create small Arduino projects and learn programming languages. These characteristics were essential for me to get first place in the application process for one of the six Aerospace Engineering programs in Brazil, in 2015. Since then, I have sought opportunities to gather more experience in space systems, which now provides me with a solid foundation to support my quest for advanced studies.

Cartas de Motivação Acadêmicas



Trajetória acadêmica e história pessoal

During my undergraduate program in Aerospace Engineering, I received scholarships to participate in the NANOSATC-BR CubeSat Development Program at the Brazilian National Institute for Space Research (2015 - 2019). This opportunity afforded me first-hand experience with several aspects involving a space mission, including interviewing stakeholders, tracking satellites, and developing models to predict the power generated by CubeSats in orbit. Following my knowledge of the project, at the end of 2019, I was tasked with developing the Environmental Test Plan used during the NCBR2 CubeSat tests at the Brazilian Laboratory for Integration and Test. This high-responsibility task made me aware of the rigorous standards of space systems and the holistic approach necessary when working with spacecraft. The successful test campaign allowed the satellite to be launched on March 22, 2021, in a Soyuz rocket from Kazakhstan and operate normally in orbit.

Cartas de Motivação Acadêmicas



Trajetória acadêmica e história pessoal

As I continually improved in the space sciences, I accepted numerous opportunities to participate in international competitions and events. In one of these competitions, alongside my team, I designed the structure, software, and mission CONOPS for a CanSat, which won first place in the Second Latin America CubeDesign Competition, in 2019. I later received an internship at the Aeronautics Institute of Technology (ITA) - the most prestigious Brazilian university in the Aerospace field - where I investigated the unique booms configuration of the SPORT satellite they were developing – SPORT mission is a partnership between NASA and the Brazilian Space Agency – with its launch planned for 2022. During the project's Critical Design Review in 2019, the committee requested an evaluation of the impact of the satellite's booms on its ADCS. Hence, I developed a multibody model of the satellite and its flexible non-latching booms, performed tests with its mechanisms, and simulated the satellite to verify that the system would function as expected.

Cartas de Motivação Acadêmicas



Trajetória acadêmica e história pessoal

In 2020, I was accepted and awarded a scholarship for a Master's program at ITA in Aerospace Engineering; as my project with SPORT advanced, it also became my Master's research, where I had the opportunity to improve and expand it. As I integrated my models of the satellite into its control system simulation environment, I noticed an unexpected behavior. After hours of investigation, I identified the source of the problem; contrary to my first thought, the unexpected behavior was not related to the booms' influence on the satellite but due to a flaw in the implemented control system, which caused the satellite to fail to complete one of its required maneuvers. As soon as the project managers were informed, a meeting took place so I could explain the problem and the team could find a solution. As a result, the satellite's control system is working properly now. This experience highlighted the relevance of accurate spacecraft modeling, simulation, and control project, and their impact on the mission. In addition to my contribution to the project, I published my thesis and my findings in the Aerospace Science and Technology journal and the Brazilian Journal of Mechanical Sciences and Engineering, and presented at three international conferences.

Cartas de Motivação Acadêmicas



Trajetória acadêmica e história pessoal

Upon obtaining my master's degree in 2022, I accepted a job offer to work with Systems Engineering in the avionics segment, in Brazil. Soon after, I realized that I desired to have a life with more purpose and a career that could provide me with that, specifically, researching space systems and leading teams to improve spacecraft capabilities to improve life on earth and expand our knowledge of the universe. This desire was also caused by the experience I got working at my startup CorujaTec in 2021, using satellite images to improve local farms' productivity in my home state; it showed me the impact space systems can have on local communities, improving people's lives. Hence, I quit my high-paying job (more than twice the national average income in Brazil) to prepare myself to apply for a Ph.D. at a university where I could pursue my passion and goals.

Cartas de Motivação Acadêmicas



Explicar o motivo de querer estudar naquela universidade e como pode contribuir na sua trajetória

After searching for the ideal university, I am persuaded that the University of Colorado Boulder's Ann and H.J. Smead Department of Aerospace Engineering Sciences Ph.D. program in Astrodynamics and Satellite Navigation Systems is the perfect environment for me to pursue my goals. Its cutting edge research, connections to multiple research institutes, experience in space missions, and an excellently ranked graduate program - nationally and internationally, position it as my first choice for a graduate program. I also believe that my broad experience in space systems, together with my specific set of skills in orbital and multibody dynamics, space systems, and programming, position me to successfully pursue doctoral studies while contributing to the department and its ongoing research. In this context, I am interested in the autonomous navigation and control of distributed systems in spacecraft formation flying, reconfigurable and on-orbit servicing and assembly systems. I also would be excited to explore the modeling and control of spacecraft with deployable and time-varying structures, as well as flexible appendages. These are all promising technologies with the potential to leverage the capabilities of space systems and the advantages they bring to humankind.

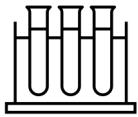
Cartas de Motivação Academicas



Como você pode contribuir com a universidade

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Cartas de Motivação Acadêmicas



Objetivos de pesquisa

If accepted into CU Boulder's Aerospace Engineering Ph.D. program, I would be thrilled to collaborate with Professor Scheeres in the development of guidance and navigation techniques for satellites and spacecraft formation flying missions to binary asteroid systems (considering inner third body perturbations, for example) and planets of the solar system. It would also allow me to be part of the Celestial and Spaceflight Mechanics Lab and contribute to ongoing research, such as the use of UDEs with Symbolic Regression. I also would be honored to work at the Autonomous and Vehicle Systems laboratory with Professor Schaub, whose research in simulation and control of time-varying spacecraft systems and systems of spacecraft intrigues me, and connects to my interests. Further, Professor Schaub has experience with the dynamics of spacecraft with flexible appendages and origami structures. Additionally, I would be excited to work with Professor McMahon at his Orbital Research Cluster for Celestial Applications laboratory. His work with distributed estimators for spacecraft in formation flying that support the introduction and removal of satellites in orbit and large constellations, aligns with my interests, particularly because it can be applied to large distributed space systems such as swarms and on-orbit servicing.

Cartas de Motivação Academicas



Objetivos futuros

I remain excited at the prospect of joining the University of Colorado Boulder's Ann and H.J. Smead Department of Aerospace Engineering Sciences Ph.D. program. Upon the completion of my doctoral training, I hope to have acquired more research experience with space missions to pursue a postdoctoral position, and, in the long term, become an accomplished researcher leading teams to develop space systems for the benefit of all mankind. Moreover, I aspire to use the experience, knowledge, and networking the Ph.D. program provides to contribute to improving the promising, but still in development, Brazilian Space Program.

Cartas de Motivação Acadêmicas

Dicas:



Não incluir coisas que os professores já sabem



Citar o nome da universidade por inteiro



Não é um CV



Utilizada para justificar reprovações, mudanças de área e outros detalhes



Revise, edite, reescreva



Peça para outras pessoas lerem



Dúvidas?

Muito Obrigado!



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