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MOTIVATION

Technological development can truly transform society in a number of ways, bringing about not only well-being but equality of opportunities for everyone.

The benefits of space exploration can go as far as one's imagination permits, therefore I chose to play an active role in the transformation of humanity to a multi-planetary species.

SKILLS

Software

Python	<div></div>
Microsoft Office	<div></div>
LaTeX	<div></div>
Matlab	<div></div>
C	<div></div>
Fortran	<div></div>
Fusion 360	<div></div>
LINUX	<div></div>
ANSYS	<div></div>
HTML	<div></div>

Languages

Portuguese	<div></div>
English	<div></div>
Spanish	<div></div>
Japanese	<div></div>

ADDITIONAL EDUCATION

- **Winter School - Introduction to Space Technologies (07/19)**
3-week-long, 100h
Team Project with 30 people.
- **Spacecraft Dynamics & Control Specialization**
4 courses on Coursera.

RODRIGO SCHMITT

EDUCATION

Bachelors of Science in Astronomy

University of São Paulo, Brazil | 02/15 - 08/19

#1 in class (one extra semester due to exchange program).

Bachelors of Science in Physics

University of São Paulo, Brazil | 08/19 - Present

Double degree.

Exchange Program of one semester

University of Notre Dame du lac, USA | 01/18 - 05/18

3 Undergraduate courses and 1 Graduate course.

Final GPA: 3.8/4.0.

RESEARCH

CubeSat development

Dr. Jane Hetem - University of São Paulo | 02/17 - 06/17

Printed Circuit Board electronics and Arduino programming in C.

Vacuum testing in laboratory.

Successful launch and recovery in a helium balloon to 30 km.

Orbit Determination Programming

Dr. Helio Kuga - National Institute for Space Research | 07/17 - 12/17

Developed Fortran codes for orbit determination.

Comparison with data from Brazilian satellite.

Mineralogical Analysis of an Apollo 16 Lunar Basalt

Dr. Clive Neal - University of Notre Dame du lac | 01/18 - 06/18

Lab work using electron microprobe.

Statistical analysis of element compositions.

Low Thrust Transfer Orbit Optimization

Dr. Antonio Prado - National Institute for Space Research | 07/18 - Present

Development of a 3D model of the Van Allen Belts.

Optimization of thousands of low thrust transfer orbits.

Fortran, C and Matlab algorithms.

Six-Degree of Freedom Rocket Trajectory Simulation

Dr. Bruno Carmo - University of São Paulo | 03/19 - Present

Python algorithm with six degrees of freedom.

ORGANIZATIONS

International Recruitment Advisor

AIIESEC, University of São Paulo | 10/15 - 06/16

- Volunteer in a team of 5 people.

- Received around 20 international students to work in São Paulo in 4 multinational and 2 national companies.

ACHIEVEMENTS

Poli/USP Scholarship - 2017

Spaceport America Cup

Given to 12 students from Project Jupiter to compete at the 2017 SA Cup.

2017 Spaceport America Cup

4th place out of 9 in the "10k ft SRAD Solid" category.

Brazilian Rocket

Competition - 2017 COBRUF

Overall winner out of 25.

2017 AUCANI International Mobility Scholarship

Given to 1 student for a semester abroad at University of Notre Dame.

2018 NASA Student Launch

10th place out of 45.

Education Engagement Award .

CNPq Scholarship - Scientific Research

07/2018 - 10/2018.

FAPESP Scholarship - Scientific Research

11/2018 - 12/2019.

INTERESTS

Buddhism

Naturalist buddhism and eastern philosophy in general

Parkour

Conquering mind and body through physical challenges

Hiking

From Brazil's mountains to US' national parks

We are what we repeatedly do. Excellence, then, is not an act, but a habit.

Will Durant

Marketing Manager of Outgoing Volunteering Programs

AIESEC, University of São Paulo | 07/16 - 12/16

- Volunteer in a team of 6 people.
- Weekly data analysis of customer market (Excel).
- Alignment of sales and customer experience (PowerPoint).
- Development of buyer personas.

Aerodynamics & Structures Member

Project Jupiter - Rocket Design Team, University of São Paulo | 07/16 - 06/17

- Optimal sizing of rocket parts through merit function analysis.
- Vacuum infusion manufacturing of carbon-fiber structure.
- Imperius: rocket launched to 10,000 feet.

Marketing Director

Project Jupiter - Rocket Design Team, University of São Paulo | 01/17 - 06/17

- Leader of a team of 4.
- Attracted 69 people to Recruitment Process.
- Articles for blogs and magazines with thousands of subscribers.

Structures Member

Notre Dame Rocket Team, University of Notre Dame du lac | 01/18 - 05/18

- Model, laser cut, and 3D print of parts of the vehicle.
- Murphy: rocket launched to 5,280 feet.

Structures Coordinator

Project Jupiter - Rocket Design Team, University of São Paulo | 08/18 - 07/19

- CAD in Fusion 360, Structural Analysis in ANSYS Mechanical.
- Manufacturing of carbon-fiber laminated structure.
- Caldene: rocket launched to 3,000 feet.
- Callisto: rocket launched to 10,000 feet.

Teacher and Data Scientist

Let's Code Academy | 02/20 - Present

- Teacher of the following courses: Python Pro (x5) (48h), Python for Finance (x2) (24h), Coding Tank (24h), Python Bloomberg - MOOC (20h).
- Data Science Squad member: data analytics and modelling.

PUBLICATIONS

TECNOLOGIAS ESPACIAIS APLICADAS AO PLANEJAMENTO URBANO

2019 CINASAMA - Congresso Internacional de Saúde e m International Congress of Health and Environment.

Schmitt R. N., Santos T. R., Rodrigues L. M. T., Santos V. C. S., Barros J. D. | 2019

OPTIMIZATION OF LOW THRUST TRANSFER ORBITS OF A SPACECRAFT CONSIDERING THE RADIATION HAZARD FROM THE VAN ALLEN BELTS

AIAA/AAS 2019 Astrodynamics Specialist Conference.

Volume 171 of the Advances in the Astronautical Sciences Series.

Schmitt R. N., Sukhanov A. S., Barbosa G. & Prado A. F. A. B. | 2019

ANOMALOUS RARE EARTH ELEMENT PROFILES FROM PLAGIOCLASE-RICH IMPACTITES FROM APOLLO 16: EVIDENCE FOR A KREEP INFLUENCE

In preparation to Geochimica et Cosmochimica Acta.

Fagan A. L., Schmitt R. N., Cronberger K., Neal C. R. & Simonetti A. S. | 2020

ROCKETPY: A SIX-DEGREE OF FREEDOM LAUNCH VEHICLE PYTHON SIMULATION

In preparation to Journal of Aerospace Engineering.

Ceotto G. H., Schmitt R. N., Alves G. F., Pezante L. A. & Carmo B. | 2020