

# JOAO P. A. DANTAS

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## EDUCATION

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<b>Aeronautics Institute of Technology</b> , São José dos Campos, Brazil	<i>Jan 2019 – Jun 2025</i>
Ph.D. in Electronic and Computer Engineering	
Cum. GPA: 9.5 / 10.0	
<b>Carnegie Mellon University</b> , Pittsburgh, PA	<i>Nov 2021 – Jan 2023</i>
Ph.D. Exchange Program in Robotics	
<b>Aeronautics Institute of Technology</b> , São José dos Campos, Brazil	<i>Aug 2016 – Dec 2018</i>
M.Sc. in Electronic and Computer Engineering	
Cum. GPA: 8.5 / 10.0	
<b>Stony Brook University</b> , Stony Brook, NY	<i>Jul 2014 – Jul 2015</i>
One-year Undergraduate Exchange Program in Mechanical Engineering	
Cum. GPA: 3.93 / 4.00	
<b>Aeronautics Institute of Technology</b> , São José dos Campos, Brazil	<i>Jan 2011 – Dec 2015</i>
B.Sc. in Mechanical-Aeronautical Engineering	
Cum. GPA: 8.7 / 10.0	

## RESEARCH EXPERIENCE

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<b>C2 — Command and Control through Aerospace Data Fusion</b> <i>Institute for Advanced Studies (IEAv)</i>	<i>Mar 2025 – Present</i>
<i>São José dos Campos, Brazil</i>	
Advanced Command and Control (C2) frameworks leveraging massive aerospace data fusion and high-performance computing to support operational planning in complex defense scenarios.	
<b>ASA — Aerospace Simulation Environment</b> <i>Institute for Advanced Studies (IEAv)</i>	<i>Dec 2020 – Present</i>
<i>São José dos Campos, Brazil</i>	
Evaluation of military operational scenarios and tactical protocols for the Brazilian Air Force using the custom-built, object-oriented <b>ASA</b> simulation framework.	
<b>Safe and Seamless Operation of Manned and Unmanned Aircraft</b> <i>Robotics Institute, Carnegie Mellon University</i>	<i>Nov 2021 – Jan 2023</i>
<i>Pittsburgh, PA</i>	
Worked with <b>Prof. Dr. Sebastian Scherer</b> and <b>Prof. Dr. Jean Oh</b> on AI for autonomous aircraft integration into manned traffic, focusing on vision-based detection and trajectory prediction.	
<b>ITACOPTER 1 — Hexacopter for Civil Construction Monitoring</b> <i>Aeronautics Institute of Technology (ITA)</i>	<i>Jul 2015 – Dec 2015</i>
<i>São José dos Campos, Brazil</i>	
Worked with <b>Prof. Dr. David Antonio dos Santos</b> on the design and flight testing of an unmanned hexacopter for infrastructure monitoring.	
<b>Stochastic Transport Processes at Interfaces</b> <i>Stony Brook University</i>	<i>May 2015 – Aug 2015</i>
<i>Stony Brook, NY</i>	
Worked with <b>Prof. Dr. Carlos Colosqui</b> on the numerical modeling of Brownian Motion and colloidal particle dynamics at micro- and nanoscale interfaces.	
<b>Automatic Data Acquisition in Plasma Tunnel Tests</b> <i>Aeronautics Institute of Technology (ITA)</i>	<i>Aug 2012 – Jul 2013</i>
<i>São José dos Campos, Brazil</i>	
Worked with <b>Prof. Dr. Gilberto Petraconi</b> on development of automatic data acquisition systems for plasma environments and evaluation of thermo-structural composite materials for aerospace protective coatings.	
<b>Thermionic Cathode Discharge in Low Pressure</b> <i>Aeronautics Institute of Technology (ITA)</i>	<i>Aug 2011 – Jul 2012</i>
<i>São José dos Campos, Brazil</i>	
Worked with <b>Prof. Dr. Gilberto Petraconi</b> on the experimental analysis of thermionic cathode discharge and plasma physics in low-pressure environments for ion source efficiency improvement.	

## PROFESSIONAL EXPERIENCE

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<b>Brazilian Air Force (FAB)</b> <i>Researcher - Captain Engineer Officer</i>	Jan 2013 – Present <i>São José dos Campos, Brazil</i>
Conduct research in <b>Modeling &amp; Simulation</b> and develop advanced decision support systems using <b>Machine Learning</b> to enhance military operations and aerospace data-driven decision-making.	
<b>COC Educational System</b> <i>Mathematics Teacher and Scientific Olympiads Coordinator</i>	Feb 2017 – Jul 2021 <i>São José dos Campos, Brazil</i>
Orchestrated preparatory classes for Scientific Olympiads, guiding students to secure <b>158 medals</b> in 46 national and international competitions.	
<b>Emerge Brazil</b> <i>Co-founder and Head of Communications</i>	Oct 2016 – Dec 2017 <i>São Paulo, Brazil</i>
Bridged scientific research with industry, mapping over <b>300 technologies</b> and facilitating <b>60 technology-industry partnerships</b> in the Brazilian market.	

## SKILLS

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<b>Natural Languages</b>	Native Portuguese ◊ Advanced English
<b>Programming</b>	Python ◊ C++ ◊ R ◊ SQL ◊ MATLAB ◊ L <sup>A</sup> T <sub>E</sub> X
<b>DL Frameworks</b>	TensorFlow ◊ Keras ◊ PyTorch
<b>Toolkits</b>	NumPy ◊ Pandas ◊ Matplotlib ◊ Scikit-Learn ◊ SciPy ◊ Git ◊ Docker ◊ Linux

## PUBLICATIONS

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- [1] Samara R. Silva, Vitor C. F. Gomes, Alessandro O. Arantes, Andre F. M. Caetano, Victor L. D. B. Costa, Adrisson R. Samersla, Felipe L. L. Medeiros, Yuri D. Ferreira, Marcia R. C. Aquino, and **Joao P. A. Dantas**. AsaFG: A Human-in-the-Loop Integration Module for Air Combat Simulations. *IEEE Access*, 13:155821–155834, 2025.
- [2] **Joao P. A. Dantas**, Felipe L. L. Medeiros, Adrisson R. Samersla, Pedro L. R. Botelho, Vitor C. F. Gomes, Samara R. Silva, Yuri D. Ferreira, Alessandro O. Arantes, Marcia R. C. Aquino, and Marcos R. O. A. Maximo. Deep Reinforcement Learning Agents With Collective Situational Awareness for Beyond Visual Range Air Combat. *IEEE Access*, 13:143052–143069, 2025.
- [3] **Joao P. A. Dantas**, Marcos R. O. A. Maximo, and Takashi Yoneyama. Autonomous Aircraft Tactical Pop-Up Attack Using Imitation and Generative Learning. *IEEE Access*, 13:81204–81217, 2025.
- [4] Andre N. Costa, **Joao P. A. Dantas**, Edvards Scukins, Felipe L. L. Medeiros, and Petter Ögren. Simulation and Machine Learning in Beyond Visual Range Air Combat: A Survey. *IEEE Access*, 13:76755–76774, 2025.
- [5] Mayara Condé Rocha Murça, Marcos Ricardo Omena de Albuquerque Maximo, **João Paulo de Andrade Dantas**, João Basílio Tarelho Szenczuk, Carolina Rutili de Lima, Lucas Orbolato Carvalho, and Gabriel Adriano de Melo. Open Machine Learning Models for Actual Takeoff Weight Prediction. *Journal of Open Aviation Science*, 3(2), 2025.
- [6] Jay Patrikar, **Joao Dantas**, Brady Moon, Milad Hamidi, Sourish Ghosh, Nikhil Keetha, Ian Higgins, Atharva Chandak, Takashi Yoneyama, and Sebastian Scherer. Image, speech, and ADS-B trajectory datasets for terminal airspace operations. *Scientific Data*, 12(1):468, 2025.
- [7] **Joao P. A. Dantas**, Andre N. Costa, Diego Geraldo, Marcos R. O. A. Maximo, and Takashi Yoneyama. PoKER: A Probability of Kill Estimation Rate Model for Air-to-Air Missiles Using Machine Learning on Stochastic Targets. *The Journal of Defense Modeling and Simulation*, 2025.
- [8] **Joao P. A. Dantas**, Diego Geraldo, Andre N. Costa, Marcos R. O. A. Maximo, and Takashi Yoneyama. ASA-SimaaS: Advancing Digital Transformation through Simulation Services in the Brazilian Air Force. *Spectrum: The Journal of Operational Applications in Defense Areas*, 2025.
- [9] **Joao P. A. Dantas**, Andre N. Costa, Vitor C. F. Gomes, Andre R. Kuroswiski, Felipe L. L. Medeiros, Diego Geraldo, Adrisson R. Samersla, Samara R. Silva, Andre F. M. Caetano, Yuri D. Ferreira, Alessandro O. Arantes, Davison S. Santos, and Marcia R. C. Aquino. ASA: A Simulation Environment for Evaluating Military Operational Scenarios. In *Computational Science and Computational Intelligence (CSCI)*, pages 203–215. Springer Nature Switzerland, 2025.
- [10] **Joao P. A. Dantas**. *Simulation and Machine Learning for Decision Support and Autonomy in Air Combat Operations*. PhD thesis, Aeronautics Institute of Technology, 2025.
- [11] Lucas Silva Lima, Rafael Duarte Rocha, Rafael Hoffmann Giannico, Denys Derlian Carvalho Brito, and **Joao P. A. Dantas**. DroneSwarm2D: Um Simulador de Enxame de Drones Autônomos para o Estudo de Táticas Defensivas Distribuídas. In *Congresso Acadêmico sobre Defesa Nacional (CADN)*. Escola Superior de Defesa (ESD), 2025.

- [12] Lucas S. Lima, **Joao P. A. Dantas**, and Paulo M. Tasinazzo. Algoritmo Distribuído para Enxame de Drones Defensivos de Pequeno Porte Baseado em Planejamento. In *Simpósio de Aplicações Operacionais em Áreas de Defesa (SIGE)*, 2025.
- [13] Francisco H. F. Araujo, Murillo S. Szvaticsek, Marco A. P. Silva, **Joao P. A. Dantas**, Christopher S. Cerqueira, and Cesar A. C. Marcondes. Análise das Formaturas Operacionais no Combate Aéreo Além do Alcance Visual para Infiltração em Território Inimigo. In *Simpósio de Aplicações Operacionais em Áreas de Defesa (SIGE)*, 2025.
- [14] Ingrid Navarro, Jay Patrikar, **Joao P. A. Dantas**, Rohan Baijal, Ian Higgins, Sebastian Scherer, and Jean Oh. SoRTS: Learned Tree Search for Long Horizon Social Robot Navigation. *IEEE Robotics and Automation Letters*, 9(4):3759–3766, 2024.
- [15] Mario Viscardi, **Joao Dantas**, Diego Geraldo, and Angelo Pássaro. Advanced Defensive Tactics: Integrating Simulation and Machine Learning in Aerial Warfare. *Spectrum: The Journal of Operational Applications in Defense Areas*, 2024.
- [16] Mario Viscardi, **Joao P. A. Dantas**, Diego Geraldo, and Angelo Pássaro. Manobra Winding: Defesa Contra Mísseis Passivos e Semiativos Superfície-Ar. In *Simpósio de Aplicações Operacionais em Áreas de Defesa (SIGE)*, 2024.
- [17] **Joao P. A. Dantas**, Samara R. Silva, Vitor C. F. Gomes, Andre N. Costa, Adrisson R. Samersla, Diego Geraldo, Marcos R. O. A. Maximo, and Takashi Yoneyama. AsaPy: A Python Library for Aerospace Simulation Analysis. In *Proceedings of the 2024 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM-PADS'24)*, Atlanta, GA, USA, 2024. Association for Computing Machinery.
- [18] **Joao P. A. Dantas**, Marcos R. O. A. Maximo, and Takashi Yoneyama. Loyal Wingman Assessment: Social Navigation for Human-Autonomous Collaboration in Simulated Air Combat. In *Proceedings of the 2024 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM-PADS'24)*, Atlanta, GA, USA, 2024. Association for Computing Machinery.
- [19] **Joao P. A. Dantas**. Autonomous Pop-Up Attack Maneuver in Air Combat Using Imitation Learning. In *Proceedings of the Winter Simulation Conference, PhD Colloquium*, Orlando, FL, USA, 2024. IEEE.
- [20] Lucas Silva Lima, Rafael Hoffmann Giannico, Denys Derlian Carvalho Brito, Antonio Gustavo Silveira Dantas, and **Joao P. A. Dantas**. Aprendizado de Máquina para a Otimização da Obtenção de Resultados em Simulações de Defesa Aeroespacial. In *Congresso Acadêmico sobre Defesa Nacional (CADN)*, Rio de Janeiro, RJ, Brazil, 2024. Escola Superior de Defesa (ESD).
- [21] **Joao P. A. Dantas**, Marcos R. O. A. Maximo, and Takashi Yoneyama. Autonomous Agent for Beyond Visual Range Air Combat: A Deep Reinforcement Learning Approach. In *Proceedings of the 2023 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM-PADS'23)*, Orlando, FL, USA, 2023. Association for Computing Machinery.
- [22] **Joao P. A. Dantas**, Diego Geraldo, Felipe L. L. Medeiros, Marcos R. O. A. Maximo, and Takashi Yoneyama. Real-Time Surface-to-Air Missile Engagement Zone Prediction Using Simulation and Machine Learning. In *Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)*, Orlando, FL, USA, 2023. National Training and Simulation Association (NTSA).
- [23] Gabriel Henrique Gobi, Pedro Lustosa Rege Botelho, Thiago Lobo Ferreira, Thiago Lopes Araujo, and **Joao P. A. Dantas**. Ambiente de Simulação Aeroespacial: Capacidades e Potenciais Benefícios para a Indústria de Defesa Brasileira. In *Congresso Acadêmico sobre Defesa Nacional (CADN)*, Pirassununga, SP, Brazil, 2023. Escola Superior de Defesa (ESD).
- [24] Andre N. Costa and **Joao P. A. Dantas**. Analysis of Sequential Parameter Optimization for Computer Simulation Optimization. *SSRN eLibrary*, 2023.
- [25] **Joao P. A. Dantas**, Andre N. Costa, Felipe L. L. Medeiros, Diego Geraldo, Marcos R. O. A. Maximo, and Takashi Yoneyama. Supervised Machine Learning for Effective Missile Launch Based on Beyond Visual Range Air Combat Simulations. In *Proceedings of the Winter Simulation Conference (WSC'22)*, Singapore, 2022.
- [26] Andre N. Costa, Felipe L. L. Medeiros, **Joao P. A. Dantas**, Diego Geraldo, and Nei Y. Soma. Formation Control Method Based on Artificial Potential Fields for Aircraft Flight Simulation. *SIMULATION*, 98(7):575–595, 2022.
- [27] **Joao P. A. Dantas**, Marcos R. O. A. Maximo, Andre N. Costa, Diego Geraldo, and Takashi Yoneyama. Machine Learning to Improve Situational Awareness in Beyond Visual Range Air Combat. *IEEE Latin America Transactions*, 20(8), 2022.
- [28] Jay Patrikar, **Joao P. A. Dantas**, Sourish Ghosh, Parv Kapoor, Ian Higgins, Jasmine J. Aloor, Ingrid Navarro, Jimin Sun, Ben Stoler, Milad Hamidi, et al. Challenges in Close-Proximity Safe and Seamless Operation of Manned and Unmanned Aircraft in Shared Airspace. In *Aerial Robotics Workshop, International Conference on Robotics and Automation (ICRA)*, 2022.
- [29] **Joao P. A. Dantas**, Andre N. Costa, Diego Geraldo, Marcos R. O. A. Maximo, and Takashi Yoneyama. Weapon Engagement Zone Maximum Launch Range Estimation Using a Deep Neural Network. In *Intelligent Systems (BRACIS)*, pages 193–207, Cham, 2021. Springer.
- [30] **Joao P. A. Dantas**, Andre N. Costa, Marcos R. O. A. Maximo, and Takashi Yoneyama. Enhanced Self-Organizing Map Solution for the Traveling Salesman Problem. In *Anais do XVIII Encontro Nacional de Inteligência Artificial e Computacional (ENIAC)*, pages 799–802. SBC, 2021.

- [31] **Joao P. A. Dantas**, Andre N. Costa, Diego Geraldo, Marcos R. O. A. Maximo, and Takashi Yoneyama. Engagement Decision Support for Beyond Visual Range Air Combat. In *Proceedings of the 2021 Latin American Robotics Symposium, 2021 Brazilian Symposium on Robotics, and 2021 Workshop on Robotics in Education (LARS/SBR/WRE)*, pages 96–101, Natal, RN, Brazil, 2021. IEEE.
- [32] **Joao P. A. Dantas** and Caio Augusto de Melo Silvestre. Modelo de Simulação Aplicado às Missões de Transporte na Região Amazônica. *Aplicações Operacionais em Áreas de Defesa*, 21:10–15, 2020.
- [33] **Joao P. A. Dantas**. Apoio à Decisão para o Combate Aéreo Além do Alcance Visual: Uma Abordagem por Redes Neurais Artificiais. Master’s thesis, Instituto Tecnológico de Aeronáutica, São José dos Campos, SP, Brazil, 2018.
- [34] **Joao P. A. Dantas**, Jelton Alexandre da Cunha, Jamesson Lira Silva, Alessandro Oliveira Arantes, and Vitor Conrado Faria Gomes. Análise Exploratória de Dados de Acidentes Aeronáuticos no Brasil. *Revista Conexão SIPAER*, 9(2):106–127, 2018.
- [35] **Joao P. A. Dantas**. Teoria dos Jogos Aplicada ao Combate BVR. *Aplicações Operacionais em Áreas de Defesa*, 20, 2017.
- [36] **Joao P. A. Dantas**. Hexacóptero para Monitoramento de Construção Civil: Montagem, Testes e Operação. Senior thesis, Instituto Tecnológico de Aeronáutica, São José dos Campos, SP, Brazil, 2015.
- [37] **Joao P. A. Dantas** and Gilberto Petraconi Filho. Aquisição Automática de Dados em Ensaios de Materiais de Barreira Térmica Realizados em Túnel de Plasma Supersônico. In *Anais do XIX Encontro de Iniciação Científica e Pós-Graduação do ITA (XIX ENCITA)*, 2013.
- [38] **Joao P. A. Dantas** and Gilberto Petraconi Filho. Estudo de uma Descarga de Catodo Termiônico em Baixa Pressão. In *Anais do XVIII Encontro de Iniciação Científica e Pós-Graduação do ITA (XVIII ENCITA)*, 2012.

## SOFTWARE

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- Dec 2025:** DroneSwarm2D — Autonomous drone swarm simulator for distributed defensive tactics. (INPI, 2025).  
- Dec 2025:** AsaGym — Reinforcement Learning library for aerospace scenarios evaluation. (INPI, 2025).  
- Dec 2025:** AsaFG — Human-in-the-loop integration module for air combat simulations. (INPI, 2025). 
- Oct 2024:** ASA (Ambiente de Simulação Aeroespacial) — Simulation framework for modeling military scenarios. (INPI BR 51 2024 002174-4).  
- Jun 2023:** AI Pilot — Close-proximity safe and seamless operation of manned and unmanned aircraft in shared airspace. (CMU Tech Transfer 2023-102). 
- 2025:** TartanAviation — Large-scale terminal airspace operations datasets.  
- 2024:** AsaPy — A Python library for aerospace simulation analysis and visualization. 

## SUPERVISION

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1. **Artur Ligiere Nunes**. Stop Criteria in Defense Simulations: Comparative Analysis and Statistical Approach Proposal. 2025. M.Sc. Thesis (Electronic and Computer Engineering) — Aeronautics Institute of Technology. (*Ongoing*).
2. **Lucas Silva Lima**. Distributed Algorithm for Small-Scale Defensive Drone Swarm Based on Machine Learning. 2025. M.Sc. Thesis (Electronic and Computer Engineering) — Aeronautics Institute of Technology. (*Ongoing*).
3. **Lucas Silva Lima**. Distributed Algorithm for Small-Scale Defensive Drone Swarm Based on Planning. 2025. B.Sc. Project (Computer Engineering) — Aeronautics Institute of Technology.
4. **Victor Luiz Dorea Beirão Costa**. Decision Support in Capability-Based Planning: Defense Scenario Analysis in Simulation Environments. 2024. B.Sc. Project (Mechanical-Aeronautical Engineering) — Aeronautics Institute of Technology.
5. **Gabriel Henrique Gobi** and **Pedro Lustosa Rege Botelho**. AsaGym: A Python Library for Reinforcement Learning in Aerospace Operational Scenarios. 2023. B.Sc. Project (Computer Engineering) — Aeronautics Institute of Technology.

## AWARDS AND HONORS

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- Dec 2025:** 3rd place in the Simulation Challenge at the IEEE Winter Simulation Conference 2025 (\$1,000).  
- Nov 2025:** 1st place in the Brazilian Ministry of Defense Doctoral Award 2025, for the best Ph.D. thesis in defense science and technology. 
- Jun 2025:** DAC Young Fellow for the Design Automation Conference (DAC) 2025. 
- Dec 2024:** WSC Diversity Award at the IEEE Winter Simulation Conference 2024 in Orlando, USA.  
- Dec 2024:** Runner-up Best Poster Award at the LACORO Summer School on Robotics 2024 in Chile.  
- Nov 2024:** 2nd place in the PRC Data Challenge 2024 for developing an open ML model for flight ATOW inference. 

**Jun 2024:** ML and Systems Rising Star 2024, awarded by MLCommons. 

**Oct 2023:** 3rd place in the Data Science Challenge 2023 for predicting flight landing time. 

**Jun 2023:** Best PhD Colloquium Award at the ACM SIGSIM PADS 2023. 

**Oct 2021:** 3rd place in the 5th Brazilian Competition on Knowledge Discovery in Databases (KDD-BR), for predicting solutions of the Travelling Salesman Problem (R\$200). 

**Oct 2021:** Military Bronze Medal, awarded by the Brazilian Air Force. 

**Oct 2019:** 6th place in the 3rd Brazilian Competition on Knowledge Discovery in Databases (KDD-BR). 

**Dec 2019:** Ambassador Award of Excellence 2019, International Youth Math Challenge (IYMC). 

**May 2019:** 4th place in the Data Science Challenge at EEF 2019. 

**Oct 2016:** Prolider Program Fellow 2016, selected by Instituto Four (29 out of 2,013 applicants). 

**Dec 2015:** Honorable Mention in Humanities, Aeronautics Institute of Technology. 

**Mar 2014:** Military Merit Award, Brazilian Air Force. 

**Nov 2011:** 1st place overall in the CPORAER-SJ 2011. 

**Dec 2010:** ITA Entrance Exam Approval (120 admitted students out of 7,627 applicants). 

**Jan 2009:** Academic Merit Award, Brazilian Air Force.

**Oct 2007:** Bronze Medal in the 10th Brazilian Olympiad of Astronomy and Astronautics (OBA). 

**Dec 2006:** Honorable Mention in the XIV Ceará Science Olympiad — Biology. 

**Dec 2006:** Gold Medal in Internal Science Olympiads, Farias Brito High School. 

**Nov 2003:** Honor to Merit in the Internal Mathematics Olympiad 2003, Christus Middle School. 

**Oct 2003:** 2nd place in the 3rd Christus Exhibition of Science and Technology (EXCETEC). 

## GRANTS AND FELLOWSHIPS

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**Dec 2025:** Travel Grant to attend the IEEE Winter Simulation Conference 2025 in Seattle, USA.

**Jun 2025:** Travel Grant (€2,900), CISB Call 15/2025, to support research at the 2025 Swedish Aerospace Congress. 

**Dec 2024:** Travel Grant to attend the IEEE Winter Simulation Conference 2024 in Orlando, USA.

**Dec 2024:** Travel Grant to attend the LACORO Summer School on Robotics 2024 in Chile.

**May 2024:** Travel Grant to attend the UNODA-SIPRI Workshop on Responsible AI in Brussels. 

**May 2024:** Travel Grant (€3,150), CISB Call 13/2024, for WARA-PS Demonstration Week in Sweden. 

**Jun 2024:** Travel Grant to attend the 2024 PADS Conference.

**Jun 2023:** Travel Grant (€3,200), CISB Call 10/2022, for AI delegation in Sweden. 

**Jun 2023:** Travel Grant to attend the ACM SIGSIM PADS 2023 in Orlando. 

**Apr 2023:** Travel Grant to attend Brazil at Silicon Valley 2023 in Santa Clara, CA.

**Jun 2022:** Merit Scholarship, Fundação Estudar, awarded for outstanding trajectory. 

**Aug 2014 – May 2015:** Full Scholarship (≈\$75,000) for study program at Stony Brook University. 

**Aug 2012 – Jul 2013:** Undergraduate Research Fellowship (PIBIC), CNPq, at the Aeronautics Institute of Technology, for the project “Automatic Data Acquisition in Plasma Tunnel Tests”. 

**Aug 2011 – Jul 2012:** Undergraduate Research Fellowship (PIBIC), CNPq, at the Aeronautics Institute of Technology, for the project “Thermionic Cathode Discharge in Low Pressure”. 

**Jan 2004 – Dec 2006:** Full Scholarship (≈\$30,000) for three years at Farias Brito High School.

## VOLUNTEERING

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**Fundação Estudar** Jan 2025 – Dec 2025  
*Ambassador* *São Paulo, Brazil*  
Engaging with a network of high-achieving young leaders, supporting initiatives to promote education and career development for Brazilian students.

**International Astronomy and Astrophysics Competition** Apr 2020 – Jul 2021  
*Ambassador* *São José dos Campos, Brazil*  
Inspiring youths for astronomy and astrophysics and encouraging participation in the competition.

**International Youth Math Challenge** Jul 2019 – Jul 2021  
*Ambassador* *São José dos Campos, Brazil*  
Informing schools and encouraging students and youths to participate in the competition.

**Alpha Lumen Institute** Jun 2012 – May 2013  
*Mathematics Teacher* *São José dos Campos, Brazil*  
Teacher of mathematics in the preparatory class for the ITA entrance exam.

## ADDITIONAL ACTIVITIES

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- **Sports:** Basketball player at Air Force Preparatory School and Air Force Academy (2007–2009). Amateur bodybuilder (2014–2015) – The National Physique Committee. Active Brazilian Jiu-Jitsu practitioner (blue belt, IBJJF).
- **Outdoors:** PADI Certified Open Water Diver. Orienteering.
- **Interests:** Reading (science fiction), chess, and traveling.

February 18, 2026