Ricardo Digiovanni Frumento

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PROFESSIONAL SUMMARY

PhD student in Computer Science at the University of South Florida with over four years of research and teaching experience in reinforcement learning, robotics, and neural networks. Proven track record of developing innovative machine learning models and robotic control strategies, with successful applications to real-world problems. Adept at communicating complex concepts to diverse audiences, mentoring students, and collaborating across teams. Highly skilled in data analysis and programming, with a focus on creating scalable, reusable solutions.

EDUCATION

University of South Florida

Doctor of Philosophy (PhD), Computer Science	Aug 2023 - May 2028
Bachelor of Science, Computer Science	Aug 2019 - May 2023

PROFESSIONAL EXPERIENCE

University of South Florida

Teacher Assistant — Aug 2022 - Present

- Supported teaching in advanced computer science courses, including Algorithms, Data Structures, and Machine Learning, impacting over 150 students.
- Designed and graded programming assignments and exams, ensuring a consistent understanding of key concepts.
- Led weekly lab sessions to help students with coding challenges, resulting in a 15% improvement in average student scores.
- Provided one-on-one mentorship to struggling students, significantly enhancing their course completion rates.

Research Assistant — Jan 2023 - May 2023

- Conducted research on reinforcement learning algorithms applied to robotic control systems, leading to two co-authored papers published in peer-reviewed journals.
- Implemented machine learning models for autonomous robot manipulation tasks, reducing task completion time by 20% through improved efficiency.
- Collaborated with faculty on grant proposals, contributing to securing $50,000 in research funding.

Peer Leader — Sep 2021 - Aug 2022

- Led peer-assisted study sessions for computer science courses, boosting average exam scores by 12% through collaborative problem-solving.
- Developed study materials and conducted weekly review sessions for over 50 students, focusing on difficult course concepts.

Orientation Leader — Jun 2019 - Aug 2019

- Guided new students through orientation sessions.
- Provided information and resources to help students transition into university life.

Universidade de São Paulo

Tutor — Feb 2013 - Dec 2013

- Assisted students in understanding and applying computer science concepts.
- Developed study materials and tutored students in small groups.

Pontifícia Universidade Católica do Paraná

Research Intern — Jul 2008 - Jul 2009

- Conducted research on machine learning algorithms.
- Developed software tools to support research activities.

PUBLICATIONS

- Tianze Chen, **Ricardo Frumento** and Yu Sun (2024). Multi-Object Grasping – Benchmark. *Journal* link.
- Zihe Ye, **Ricardo Frumento** and Yu Sun (2024). Only Pick Once: Algorithms for Efficiently Picking an Exact Number of Multiple Identical Objects. *IEEE Transactions on Automation Science and Engineering (T-ASE).* link.

CONFERENCES & PRESENTATIONS

- Attended the 2025 IEEE International Conference on Robotics and Automation (ICRA), Atlanta, USA.
- Adam Norton, Holly Yanco, **Ricardo Digiovanni Frumento**, Yu Sun, Kostas Bekris, Berk Calli, and Aaron Dollar. *Towards Standards and Guidelines for Developing Open-Source and Benchmarking Learning for Robot Manipulation in the COMPARE Ecosystem.* Presented at the 2024 Conference on Robot Learning (CoRL), Munich, Germany.
- Attended the 2024 Florida Conference for Recent Advances in Robotics (FCRAR), Tallahassee, USA.
- Attended the 2023 Conference on Robot Learning (CoRL), Atlanta, USA.

SKILLS

- **Programming Languages:** Python, C++, MATLAB
- **Frameworks:** TensorFlow, PyTorch
- **Tools:** Git, CoppeliaSim, ROS, Docker
- **Languages:** Portuguese (Native), English (Professional), Spanish (Professional), French (Elementary)
- **Other Skills:** Collaboration, Public Speaking, Research Documentation, Mentorship

CERTIFICATIONS

- SQL Essential Training (Issued by LinkedIn Learning, 2024)
- Artificial Intelligence Foundations: Neural Networks (Issued by LinkedIn Learning, 2023)
- Responsible Conduct of Research for Engineers (Issued by CITI Program, 2022)
- Discover Python (Issued by Codecademy, 2021)