

Raul Steinmetz

Tsukuba, Japan | raulsteinmetz0808@gmail.com | www.rsteinmetz.com
www.linkedin.com/in/raul-steinmetz-053836225 | github.com/raulsteinmetz

About

I'm Raul, a Brazilian Computer Science student passionate about the synergy between computing and intelligence. I focus mainly on researching Deep Reinforcement Learning.

General Information

Nationality: Brazilian

Date of Birth: August 08, 2003 (22 years old)

Current Occupation: First-Year Computer Science Master's Student at the University of Tsukuba

Education

University of Tsukuba, Japan, MS in Computer Science

Apr. 2025 – Mar. 2027

Current GPA: 3.0/3.0

Focus: Machine Learning, Robotics

Federal University of Santa Maria, Brazil, BS in Computer Science

May. 2021 – Dec. 2024

Grade Average: 9.26/10.00

Focus: Machine Learning, Robotics

Colégio Murialdo de Ana Rech (Brazil), High School Diploma

Feb. 2018 – Dec. 2020

Grade Average: 9.22/10.00

Experience

Robotics Intern, Qiron Robotics

Sep. 2022 – Feb. 2023

Developed a conversational interface and a facial recognition algorithm for a humanoid robot

Service

Paper reviewer for journal, IEEE Robotics and Automation Letters

Oct 2025

Paper reviewer for journal, Results in Engineering

Aug 2025

Paper reviewer for journal, Knowledge-Based Systems

Jul 2025

Paper reviewer for conference, IEEE ICRA 2025

Nov 2024

Paper reviewer for conference, IEEE CIS-RAM 2024

May 2024

Lecturer for Machine Learning Workshop, Federal University of Santa Maria

Jul. 2022

Lecturer for Git and GitHub Workshop, Federal University of Santa Maria

Jun. 2022

Lecturer for Java Workshop, Federal University of Santa Maria

May 2022

Lecturer for LaTeX Overleaf Workshop, Online Course for Public School Teachers, Santa Maria (RS, Brazil)

Feb. 2022

Awards

Monbukagakusho Scholarship, University of Tsukuba

Apr 2025 - March 2027

For pursuing my Master's Degree

CNPq Scholarship, Federal University of Santa Maria

Sep. 2023 – Aug 2024

For Researching deep reinforcement learning for terrestrial robot navigation as an undergraduate

CNPq Scholarship, Federal University of Santa Maria

Mar. 2023 – Jul. 2023

For researching image instance segmentation methods for weed and soy detection in crops as an undergraduate

PET Scholarship, Federal University of Santa Maria

Dec. 2021 – Aug. 2022

For supporting peer learning, teaching workshops for new students and conducting research as an undergraduate

Robot Competitions

Tsukuba Challenge Mayor's Award, Tsukuba, Japan

Dec 2025

Tsukuba Challenge is an annual large-scale autonomous navigation experiment testing autonomous mobile robots in real-world urban environments. The Mayor's Award is the highest distinction awarded for successfully achieving full autonomy, safety, and task completion. I participated in a University of Tsukuba robotics team named Kerberos, and worked in computer vision.

Skills

Languages: Brazilian Portuguese (native), English (C1), French (elementary)

Programming Languages: Python 3, C++, C

Frameworks and Libraries: PyTorch, Numpy, Gym

Technologies: ROS2, Linux, GitHub, Roboflow, AWS (to some extent)

Academic References

Akihisa Ohya, Ph.D.

Master's degree supervisor

ohya@cs.tsukuba.ac.jp

Celio Trois, Ph.D.

Professor and Research Project Manager at Federal University of Santa Maria

trois@inf.ufsm.br

Publications

- [1] Jair Augusto Bottega, Victor Augusto Kich, Junior Costa de Jesus, Raul Steinmetz, Alisson Henrique Kolling, Ricardo Bedin Grando, Rodrigo da Silva Guerra, and Daniel Fernando Tello Gamarra. Jubileo: An immersive simulation framework for social robot design. *Journal of Intelligent & Robotic Systems*, 109(4):91, 2023.
- [2] Jair Augusto Bottega, Raul Steinmetz, Alisson Henrique Kolling, Victor Augusto Kich, Junior Costa De Jesus, Ricardo Bedin Grando, and Daniel Fernando Tello Gamarra. Virtual reality platform to develop and test applications on human-robot social interaction. In *2022 Latin American Robotics Symposium (LARS), 2022 Brazilian Symposium on Robotics (SBR), and 2022 Workshop on Robotics in Education (WRE)*, pages 1–6, 2022.
- [3] Victor A. Kich, Jair A. Bottega, Raul Steinmetz, Ricardo B. Grando, Ayano Yorozu, and Akihisa Ohya. Curling the dream: Contrastive representations for world modeling in reinforcement learning. In *2024 24th International Conference on Control, Automation and Systems (ICCAS)*, pages 952–957, 2024.
- [4] Victor A. Kich, Jair A. Bottega, Raul Steinmetz, Ricardo B. Grando, Ayano Yorozu, and Akihisa Ohya. Kolmogorov-arnold networks for online reinforcement learning. In *2024 24th International Conference on Control, Automation and Systems (ICCAS)*, pages 958–963, 2024.
- [5] Joao DR Mazzarolo, Raul Steinmetz, and Sergio LS Mergen. Um estudo sobre a falta de padronização na descrição de produtos em notas fiscais eletrônicas. In *Anais do XVII Escola Regional de Banco de Dados*, pages 31–40. SBC, 2022.
- [6] Raul Steinmetz, Fabio Demo Rosa, Victor Augusto Kich, Jair Augusto Bottega, Ricardo Bedin Grando, and Daniel Fernando Tello Gamarra. World models for autonomous navigation of terrestrial robots from lidar observations. *Journal of Intelligent & Fuzzy Systems*, page 18758967251399741, 2025.
- [7] Raul Steinmetz, Victor Augusto Kich, Henrique Krever, João Davi Rigo Mazzarolo, Ricardo Bedin Grando, Vinicius Marini, Celio Trois, and Ard Nieuwenhuizen. From seedling to harvest: The growingsoy dataset for weed detection in soy crops via instance segmentation. In *2024 IEEE International Conference on Cybernetics and Intelligent Systems (CIS) and IEEE International Conference on Robotics, Automation and Mechatronics (RAM)*, pages 502–507, 2024.