






## Francisco Affonso

Ph.D. Student in Computer Science (Robotics)  
University of Illinois, Urbana-Champaign

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## EDUCATION

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- **University of Illinois, Urbana-Champaign (UIUC)** 2025 - Present  
*Ph.D. in Computer Science*
- **University of São Paulo, São Carlos (EESC - USP)** 2020 - 2024  
*B.Sc. in Mechatronics Engineering*

## EXPERIENCE

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- **Graduate Researcher** 2025  
*Petrobras & FAFQ* São Carlos, BR
  - Developed locomotion and navigation controllers for quadrupedal robots, applied to inspection in Petrobras offshore plants, in partnership with the University of São Paulo (USP).
- **Undergraduate Researcher** 2022 - 2024  
*CRob (Robotics Center of USP)* São Carlos, BR
  - Awarded a FAPESP scholarship for research on learn sample-efficient and adaptive locomotion frameworks...
  - Awarded a FAPESP scholarship for research on learn sample-efficient and adaptive locomotion frameworks for quadrupedal robots.
- **Intern Researcher** 2024  
*Distributed Autonomous Systems Laboratory (DASLAB) at UIUC* Urbana-Champaign, US
  - Internship research project (Scholarship Holder at FAPESP) in the field of reinforcement learning algorithms as locomotion controllers for legged robotics and navigation methods for dynamic jumping robots, including experimental work with Salto-1P.
- **Vice-Director of the Autonomous Mobile Robotics Center** 2023  
*SEMEAR Group* São Carlos, BR
  - Led the Autonomous Mobile Robotics Center within the SEMEAR group, an undergraduate student team competing in university competitions focused on real-world mobile robot solutions, and actively participated in the group from 2020 to 2024.
- **Teaching Assistant** 2021  
*EESC-USP* São Carlos, BR
  - Designed scaled robots (harvesters and tractors) for practical learning in the “Advanced Topics in Biosystems Engineering” course and assisted in creating programming materials while mentoring students.

## MAIN PUBLICATIONS

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- **Journal of Intelligent & Robotic Systems** 2025  
**Affonso, F.**, Tommaselli, F. A. G., Capezzuto, G., Gasparino, M. V., Chowdhary, G., & Becker, M. (2025). CROW: A Self-Supervised Crop Row Navigation Algorithm for Agricultural Fields. *Journal of Intelligent & Robotic Systems*, 111(1), 28.
- **IEEE Latin American Robotics Symposium** 2023  
**Pinto, F. A.**, Tommaselli, F. A. G., Gasparino, M. V., & Becker, M. (2023, October). Navigating with finesse: Leveraging neural network-based lidar perception and iLQR control for intelligent agriculture robotics. In *2023 Latin American Robotics Symposium (LARS)* (pp. 502-507). IEEE.

## SKILLS

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**Languages:** Portuguese (Fluent), English (Advanced)

**Developer Tools:** Amazon Web Services (AWS), GitHub, Git

**Frameworks:** Robot Operating System (ROS), PyTorch, Isaac Sim, IPOPT

**Soft Skills:** SCRUM, People Management, Teamwork

**Areas of Interest:** Robotics, Mobile Manipulation, Imitation Learning, Vision-Language-Action (VLA) Models, Model-Based Reinforcement Learning

## KEYNOTES & INVITED TALKS

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### •Robotics in AgricultureInvited Talk

*May 2023*

Invited lecture at the S4 – Agricultural Automation session during the 48th Agricultural Science and Technology Week (SECITAP), São Paulo State University (UNESP), Jaboticabal, Brazil, focusing on applications of robotics in agriculture.

## EDITORIAL & REVIEW SERVICE

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### •IEEE Transactions on CyberneticsPeer Reviewer

*2024 - Present*

*IEEE Transactions on Cybernetics* (Impact Factor: 9.4).

### •Journal of Intelligent & Robotic SystemsPeer Reviewer

*2024 - Present*

*Journal of Intelligent & Robotic Systems* (Impact Factor: 3.1).

### •Journal of the Brazilian Society of Mechanical Sciences and Engineering (BMSE)Peer Reviewer

*2025 - Present*

*Journal of the Brazilian Society of Mechanical Sciences and Engineering* (Impact Factor: 2.1).