

Raffaele Galliera

Ph.D. Student in Intelligent Systems
and Robotics
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Citizenship: Italian

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Work Experience

● Research Assistant

08/2021 - Present
University of West Florida
Institute for Human and Machine Cognition (IHMC)
Pensacola, Florida, USA

Achievements/Tasks:

- RL and MARL applications to different network optimization problems
- Presented at NeurIPS and AAAI workshops in 2023
- Accepted into the 29th AAAI/SIGAI Doctoral Consortium at AAAI 2024
- Appointed Member of the NATO IST-194 Research Group on Adaptive Networks at the Tactical Edge
- Containerization of distributed DL/RL applications
- Deployment of DL models at the edge

● Graduate Assistant

08/2020 - 08/2021
University of West Florida
Pensacola, Florida, USA

Achievements/Tasks:

- Workshops on memory optimization for undergraduate students and utilization of Jupiter Notebooks for AI projects
- Teaching Assistant (grading and tutoring)
- Achieved 3rd Place at the nationwide competition AI Tracks at Sea

● Software Developer

03/2018 - 08/2020
Enrian Partners
Prague, Czech Republic

Achievements/Tasks:

- Full-stack Software Developer

Education

● Ph.D. - Intelligent Systems & Robotics

08/2021 - Present
University of West Florida
Pensacola, Florida, USA

● **Master's Degree - Computer Science**

08/2020 - 08-2021
University of West Florida
Pensacola, Florida, USA

● **Bachelor's Degree - Electronics
and Computer Science Engineering**

09/2014 - 09/2019
University of Ferrara
Ferrara, Italy

Organizations and Achievements

Accepted into the 29th AAAI/SIGAI Doctoral Consortium at AAAI 2024

02/2024
<https://aaai.org/aaai-conference/dc-24-program/>.

Appointed Member of the NATO IST-194 Research Group on Adaptive Networks at the Tactical Edge

02/2023 - Present
The main objective of this group is to develop a novel network architecture with methods and protocols that can adapt, manage, and control existing radio technologies in heterogeneous networks for increased robustness and optimized planning and use of the available network resources.

Achieved 3rd Place at the national competition "AI Tracks at Sea"

01/2021
This challenge solicited software solutions to automatically generate georeferenced tracks of maritime vessel traffic based on data recorded from a single electro-optical camera imaging the traffic from a moving platform.
<https://www.doncio.navy.mil>

Vice-President and President of the Artificial Intelligence and Data Analysis organization

08/2020 - 08/2022
University of West Florida

Publications

Marine Vessel Tracking using a Monocular Camera

06-2021

2nd International Conference on Deep Learning Theory and Applications (DeLTA)

DOI: 10.5220/0010516000170028

An Introduction to Data Encryption and Future Trends in Lightweight Cryptography and Securing IoT Environments

12-2021

(Journal) Transactions on Engineering and Computer Sciences

DOI: 10.14738/tmlai.102.11939

A Machine Learning Approach to the Determination of Value of Information to Operators and Applications on the Tactical Edge

09-2022

2022 International Conference on Military Communication and Information Systems (ICMCIS)

DOI: 10.1016/j.procs.2022.09.015

MARLIN: Soft Actor-Critic based Reinforcement Learning for Congestion Control in Real Networks

05-2023

Presented at the AAAI 2023 Reinforcement Learning Ready for Production Workshop

Published at NOMS 2023 IEEE/IFIP Network Operations and Management Symposium

DOI: 10.1109/NOMS56928.2023.10154210

Learning to Sail Dynamic Networks: The MARLIN Reinforcement Learning Framework for Congestion Control in Tactical Environments

10-2023

To be published at MILCOM 2023 IEEE Military Communications Conference (MILCOM)

DOI: 10.48550/arXiv.2306.15591

Learning Collaborative Information Dissemination with Graph-based Multi-Agent Reinforcement Learning

12-2023

Presented at the NeurIPS 2023 ML4Sys Workshop

DOI: 10.48550/arXiv.2308.16198

Implementation Skills

- Software Development and Software Engineering
- Containerization of RL and ML environments
- Python, C, C++, Java, Haskell, Ruby, SQL, Git
- Proficient in major RL and DL libraries and frameworks such as Gym/Gymnasium, PyTorch, Stable-Baselines, Tianshou, and others

Languages

- English - Full Professional Proficiency
- Italian - Native or Bilingual Proficiency

Interests

- Artificial Intelligence and Machine Learning
- (Multi-Agent) Reinforcement Learning
- Multi-Agent Systems
- Distributed Systems
- Communication Networks
- Computer Vision
- ML at the Network Edge