Rafael A. Rodriguez-Sanchez

Website: rafarodsa.github.io
Email: rrs@brown.edu
LinkedIn: rafarodsa
GitHub: github.com/rafarodsa

EDUCATION

Brown University Providence, RI
Ph.D. in Computer Science, Advisor: George Konidaris 2019–Current

  − Currently working at the intersection of natural language, MDPs and Reinforcement Learning

Politecnico di Milano Milan, Italy
M.S. in Computer Science, Graduation Grade: 110/110 *Cum Laude* 2016–2018

  − Thesis: "A Variational Approach to Transfer Value Functions in Reinforcement Learning".
    Advisor: Marcello Restelli

Universidad Simon Bolivar Caracas, Venezuela
B.S. in Electronic Engineering, GPA: 4.9/5.0 (*Summa Cum Laude*) 2010–2016

  − Thesis: "Implementation of algorithms and debugging for STMicroelectronics wearable platform (Desarrollo de algoritmos y depuracion de la plataforma ponible de STMicroelectronics)".
    Advisors: Daniele Caltabiano (ST Microelectronics), Giacomo Boracchi (Politecnico di Milano), Novel Certad (Universidad Simon Bolivar).

EXPERIENCE

Politecnico di Milano Milan, Italy
Research Fellow, AIRLab Fall 2018 - Summer 2019

  − Vision-based Tracking algorithms for Intelligent Missiles

  − Development of tracking algorithms for intelligent missiles simulation that target naval ships in order to enable research in optimal defense strategies computation

Politecnico di Milano Milan, Italy
Research Assistant, AIRLab Fall 2018

  − Restructuring of the electronics of Differential Robot Platform for Autonomous Navigation Research

  − Implementation of low-level controllers for motors and acquisitions of sensory information from LIDARs, sonars and stereocameras based on ROS

ST Microelectronics Agrate-Brianza, Italy
Research & Development Intern, Advanced Systems Technologies Group Feb 2015-Jul 2015

  − Development of real-time algorithm to detect optimal time of image acquisition to improve image sharpness

  − Improve transmission rate of the image acquisition system

  − Debugged and fixed of power and image transmission of microcontroller-based board

CONFERENCES

[1] A. Tirinzoni*, **R. Rodriguez-Sanchez***, and M. Restelli, "Transfer of value functions via variational methods", in *Advances in Neural Information Processing Systems 31*, 2018 [acceptance rate: 21%].

Workshops

[2] **R. Rodriguez-Sanchez***, R. Patel*, and G. Konidaris, "On the relationship between structure in natural language and models of sequential decision processes", *1st Language and Reinforcement Learning Workshop at International Conference in Machine Learning*, 2020.

[3] A. Bagaria, S. Kim, A. Mazzetto, and **R. Rodriguez-Sanchez**, "Replication of a unified bellman optimality principle combining reward maximization and empowerment", 2019, NeurIPS 2019 Reproducibility Challenge.

[4] A. Tirinzoni*, **R. Rodriguez-Sanchez***, and M. Restelli, "Transfer of value functions via variational methods", 2018 [Oral].

Teaching

- **Teaching Assistant** at Universidad Simon Bolivar   Fall 2012-Winter 2013
  Programming I (CI 2125):
  — *Taught weekly Laboratory Sessions. Graded 20% of the grade.*

Skills

- **Programming Languages:** Embedded C/C++, Python, MATLAB, Java
- **Frameworks:** ROS, TensorFlow, PyTorch, OpenCV

Languages

- **Spanish**
- **English**
- **Italian**

Relevant Coursework

Machine Learning, Deep Learning, Seminar on Recent Advances, Vision and Language, Algorithmic Game Theory, Probabilistic Algorithm Analysis, Optimization

Scholarships and Awards

- MAECI (Italian Ministry of Foreign Affairs and International Cooperation) Scholarship covering Master's degree tuition and living expenses in Italy.   2017–2018
- Universidad Simon Bolivar "Exceptionally Good" Mention for Undergraduate Thesis   2015
- Universidad Simon Bolivar Top 30 Students across all majors   2016
- Universidad Simon Bolivar Best Electronic Engineering Student (Cohort 2010)   2012, 2014
- Universidad Simon Bolivar Top 10 Students of 2010 Cohort   2011