Franci Rrapi

AI and Robotics Engineer

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Professional Experience

Research Fellow | *AILAB-Udine*   Jul 2024 - PRESENT

Advanced artificial intelligence and visual reasoning approaches for collaborative robotics (AI4CR).

R&D Machine Learning and Control Engineer | *CmcMarine*   Sep 2023 - Dec 2023

Study and control of the fins for yachts stabilization with ML model and implementation of a new controller based on RL model approach.

QA Engineer | *Concept Reply*   Nov 2022 - Aug 2023

Implementation of automation processes, test cases, performance tests and innovative solutions (such as AI and CV) to ensure the overall quality and functionality of software products. Supervisor of thesis students on R&D projects regarding a robotic arm in the laboratory.

Robotics Engineer (Erasmus+ Traineeship) | *Procter & Gamble*   Mar 2022 - Jul 2022

Creation of the workspace Robotics Simulation; Creation and addition of the Robot composed by manipulator and gripper URDFs to the scene simulator for Motion Control and Path Planning; Addition of the camera model on the gripper for Object Detection and Recognition. Execution of the robot simulation and Development of an AI Planning framework for the execution of quality measurement experiments and test the approach on the R&D Lab robots.

NLP Engineer (Internship) | *Babelscape*   Sep 2019 - Nov 2019

Development of a pipeline that uses Neural Network and AI tools to detect and analyze texts written in human natural language; the model was able to understand and disambiguate the word meaning.

Education

MSc in Artificial Intelligence and Robotics   Sep 2018 - Jul 2022
University of Rome La Sapienza

     Erasmus+ Traineeship (Procter & Gamble | Brussels, Belgium)   Mar 2022 - Jul 2022
     Extra-EU Mobility (UFMG | Belo Horizonte, Brazil)   May 2021 - Sep 2021

BSc in Computer Science   Sep 2014 - Oct 2018
University of Rome La Sapienza

     Erasmus+ (UMA | Malaga, Spain)   Sep 2017 - Jul 2018

Skills

- Programming Languages: C, C++, Python, MATLAB, Java, JavaScript, SCALA.
- Libraries/Frameworks: TensorFlow, PyTorch, Keras, NumPy, SciPy, Matplotlib, Pandas, Scikit-learn, OpenCV, Tesseract, YOLO, ROS, Gazebo, RViz, V-REP, MoveIt!, Selenium, Cucumber.
- Robotics: Inverse/Direct Kinematics, SLAM, Reasoning, Planning, Control.

- Tools/Platform: Git, Colab, Jupyter, Linux, Windows, Docker.
- Database: MySQL.
- Spoken Languages: Italian, Albanian, English, Portuguese, Spanish, French.

Publications

- [Paper](#) | AIRO-AIxIA 2022   30 Nov 2022
  Modelling automated industrial experiments as incremental diverse AI planning problems
- [MSc Thesis](#) | University of Rome La Sapienza   20 Jul 2022
  Robot Control and Plan Execution for Automated Experiments in Industrial Laboratory
- BSc Thesis | University of Rome La Sapienza   30 Oct 2018
  Analysis of Sound and Spoken Language for Human-Machine Interaction

Extracurricular Activities

Farmer Volunteering | Fazenda Boa Esperança | Delfim Moreira, Brazil   Jan 2024 - Feb 2024
Sales Promoter | MediaWorld | Rome, Italy   Nov 2019 - Apr 2021
Library Assistant | DIAG La Sapienza | Rome, Italy   Sep 2016 - Aug 2018

References

Prof. **Luca Iocchi** | University of Rome La Sapienza | [e-mail](#) | MSc Thesis Advisor
Dr. **Fabio Zonfrilli** | Procter & Gamble | [e-mail](#) | MSc Thesis Co-Advisor
Prof. **Daniele Nardi** | University of Rome La Sapienza | [e-mail](#) | BSc Thesis Advisor