Andrea Oriolo

Master Computer Engineer

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Professional Experience

Modis Consulting s.r.l. – Bologna (01/2022 -)

Embedded Software Engineer for " Modis Consulting s.r.l." in "Datalogic S.p.A.", R&D - Handheld Scanners.

- Resolution of software defects found during the testing phase.
- Participation in development of a new HAL (Hardware abstract level) for handheld scanners in particular for bluetooth products.

Education

University of Padua – Padua

(LM-32) MASTER DEGREE IN COMPUTER ENGINEERING (2018 - 2021)

- Deep Learning Techniques for Anomaly Detection on Answers to Online Questionnaires

University of Calabria – Rende (CS)

(L-8) BACHELOR DEGREE IN COMPUTER ENGINEERING (2013 - 2018)

- Blockchain Protocol - The technology that could revolutionize the Internet world

Digital Skills

Programming languages

- Python | Java | C++ ●●●●○
- C | SQL | HTML | CSS ●●○○○

Operating System

MacOS | Microsoft Windows | Linux

Software Tools

IAR Embedded Workbench IDE | Lauterbach TRACE32 | Visual Studio Code | YAT - Yet Another Terminal | Eclipse | XCode | Apache Spark | Hadoop MapReduce | PyCharm | IntelliJ IDEA | PostgreSQL | Git | Bash | Google Colaboratory | Microsoft Office (Word, Excel, PowerPoint) |

Projects

Machine Learning (Python: Tensorflow, Keras, Numpy, Scikit-learn, Matplotlib)

- Implementation of a convolutional neural network to recognize handwritten digits using MNIST dataset and an Autoencoder for removing noise in images.
- Implementation of a Naive Bayes classifier using the 20newsgroup dataset.
- Comparison of different Ensemble Learnig techniques using Random Forest, AdaBoost,
- GradientBoosting, Bagging e Stacking.

Computer Vision (C++ | OpenCV)

- Camera calibration via checkerboard to extract the intrinsic parameters of the camera used and the distortion parameters.
- Identifying the lane and road signs of an image provided using the OpenCV: Canny Edge Detector, Hough Line Transform e Hough Circle Transform.
- Keypoints, Descriptors and Matching: Creation of a panoramic image given a sequence of separate image.
- Object recognition and tracking: Detection and tracking of a series of objects in a video.

Autonomous Robotics (C++ | Robot Operating System (ROS))

- Study of three different aspects of autonomous robotics.

1. Perception: Identification of objects tagged by AprilTag through a Kinect.
2. Manipulation: Implementation of a ROS MoveIt routine capacle of manipulating a UR10 to collect objects and place them on a target area avoiding collisions.
3. Navigation: Implementation of a ROS MoveIt routine that allows a mobile robot to move around an arena avoiding obstacles.

Parallel Computing (C | OpenMP | MPI)

- C implementation of the parallel Floyd-Warshall algorithm compared with the sequential version by calculating execution time, speedup and efficiency.

Artificial Intelligence (Python)

- Implementation of a «User-based Collaborative Filtering» recommendation system using the MovieLens dataset.

Big Data (Java | Apache Spark | Hadoop MapReduce)

- Implementation of an efficient algorithm for k-median clustering based on the k-means++ strategy.

Language skills

- Italian (Mother tongue)
- English (Listening - B1 | Reading - B1 | Writing - B1 | Expression - B1)

Open Badge

- Master’s degree in Computer Engineering

Driving Licenses

- Italian driving license B