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(Personal)

Top Skills

C
Real-time Software Development
Linux

Languages

Italian (Native or Bilingual)
English (Full Professional)
Spanish (Professional Working)
French (Limited Working)

Honors-Awards

Second Prize at EUnited Robotics
Technology Transfer Award 2014 @
Rovereto
Finalist at EUROP/EURON
Technology Transfer Award 2009 @
Leuven
Second Prize at Altran 'Campus'
Award 2006

Publications

A Modular and Task-Oriented
Architecture for Open Control
System: the Evolution of C5G Open
towards High Level Programming
A SLAM algorithm based on range
and bearing estimation of passive
UHF-RFID tags
BOG and Fuzzy Controllers Based
Multimodal Collision Avoidance for
Industrial Manipulators
Controllo delle regioni di interferenza
per l'interazione tra robot e ambiente
A control algorithm for the
management of multiple dynamical

Fabrizio Romanelli

Researcher at CNR-ISTP
Rome, Latium, Italy

Summary

Senior engineer with extensive expertise on robotics, automation systems and computer science across industry and research institutions.

Researcher for DTT (Divertor Tokamak Test facility) project for nuclear fusion on the control architecture of the ECRH (Electron Cyclotron Resonant Heating) control unit and power supplies. Modelling and simulation of robot kinematics in remote handling for divertor replacement.

Researcher on Robotics Perception, Simultaneous Localization And Mapping and Resilient Sensor Fusion and Navigation.

Technical leader with strong experience in leading projects, focused on guiding the project technical vision, analyzing risks and requirements with clear and strong communication skills.

Software manager with direct experience on coordinating people, resources and processes with team of 10+ people, focused on communication and delivery of effective solutions.

Core competencies:

- Software development for real-time and non real-time robotic and embedded systems
- Professional knowledge of CI/CD practices
- Cloud platforms architecture development (AWS, REST API)
- Communication, motivation, openness, positivity, responsibility
- Project management & technical leadership
- Mentor and trainer on industrial robotics

Experience

Consiglio Nazionale delle Ricerche
Researcher
December 2022 - Present (4 months)
Milan, Lombardy, Italy

geometrical areas for industrial manipulators

Patents

Method for controlling at least two robots having respective working spaces including at least one region in common

Robot System

Robot system

Research fellowship on ECRH (Electron Cyclotron Resonance Heating): study and analysis to design a system for gyrotrons management and remote control for DTT (Divertor Tokamak Test facility) in controlled Thermonuclear Fusion.

IN.SI. Srl

Training Specialist on industrial robotics

March 2021 - Present (2 years 1 month)

Rome, Latium, Italy

Trainer in industrial robotics.

Overview of robot control systems, robot kinematics, dynamics, programming and interfacing with PLCs through fieldbuses. Robot programming for Universal Robots and ABB robots with interactive simulations.

Training plan CO.P.E.R.N.I.CO - COstruzione di imPianti intEgRati iNtelligenti e COnnessi.

Agrivol

Business Development Manager

June 2021 - December 2022 (1 year 7 months)

Rome, Latium, Italy

Definition of technical requirements for an automated robot platform for agriculture applications, delivery and selling of developed solutions, writing and development of projects for rural development programs (PSR). Official partner with ClearPath for the PartnerBot application. AQTEC.

APPLAUDART

Senior Cloud Engineer

March 2019 - January 2021 (1 year 11 months)

Viterbo Area, Italy

Software backend engineer for cloud AWS platform and leading the team for backend development and cloud computing through Amazon Web Services. Extensive knowledge of the major cloud AWS services (Lambda, DynamoDB, ElasticSearch, AppSync, EC2). Expert-level experience with the integration of highly-complex, diverse, enterprise-class systems. Self-motivated, working independently and as part of a team. Professional knowledge of CI/CD practices.

University of Rome Tor Vergata

Robotics Specialist

January 2020 - May 2020 (5 months)

Rome, Latium, Italy

Design of ROS 2 software architecture for autonomous systems. State of the art investigation on VSLAM techniques. Integration of ORBSLAM2 algorithm in testing environment, development of high-level wrapper for RGB-D camera drivers in C++. Functional testing of the algorithm and optimization. Integration of the algorithm in real indoor and outdoor environments with computational benchmarks for monocular, stereo and RGB-D cameras.

Istituto Italiano di Tecnologia

Senior Software Engineer

December 2017 - February 2019 (1 year 3 months)

Genoa Area, Italy

Member of the Advanced Robotics Research Line.

Management of software engineering team and students supervision.

Development and maintenance of robot real-time control frameworks and communication systems.

Software architecture design for legged robots, management and maintenance of CI/CD pipelines on GitLab. Locomotion, manipulation and GUI software development.

Open source code adaptation, ROS and ROS packages integration on the robots.

Test evaluation, report analysis.

Comau

10 years 7 months

Software Development Manager

March 2016 - October 2017 (1 year 8 months)

Turin Area, Italy

Responsible for the technical software design and development of Comau next generation robotics platform. Within this position I am focusing on the research and design of robot software both on the PC, mobile environment and robot system controller. As per my role I also have a strong focus on people management to let them develop their own capabilities and skills and to lead them towards reaching targets effectively.

Software Engineer Specialist in Motion Planning and Robotics

January 2009 - February 2016 (7 years 2 months)

Member of the motion control team, robotics engineering. Design, programming and study of motion control for Comau Robots. Currently involved in the brand-new NGRS project for the development of the next generation robotic software platform in an International context; the activity is

now focused on the gathering of user requirements, activity which I personally lead from the technical side with the cooperation of 6 teams. The next steps will involve design and development of the new platform with an Indian supplier. Study and analysis of advanced solutions for integration of Comau robot family with industrial automation. Management of C4G/C5G robot motion control system with use of real time operating systems.

Development of software in C/C++. Active in EU Projects (ROBOFOOT, SMErobotics, X-Act) and related developments of C4G/C5G Open and Open realistic Robot Library to support motion in open Linux platforms. Head of the eMotion internal project to improve robot movement both for quality and velocity. Active support for customers on Conveyor Tracking features and Interference Regions.

Robotics Engineer

April 2007 - December 2008 (1 year 9 months)

Turin Area, Italy

Member of the Motion Control team.

Development of innovative products (Manual Guidance Device) and software solutions (Interference Regions). Test and validation of main functions of the robot system. Member of the Project Management Committee for the european funded project Robofoot for innovative solutions in the shoe production process.

ICAPGroup

Control Software Engineer

October 2006 - March 2007 (6 months)

Integrator of highly automated systems for applications in Automotive sector.

Programming of Comau and ABB robots in robotized areas.

Design of systems for computer vision in Visual Basic language.

Management and programming of productive process with Allen-Bradley PLC.

Programming of security devices (Pilz).

Capgemini

IT - Consultant

June 2006 - July 2006 (2 months)

Programming of Perl script for the security and control of log files in Sun Solaris environment with HP solutions (HP OVO – Open View Operator).

C++ programming for the billing and rating engines.

Involved in Vodafone Greece project.

Education

University of Rome Tor Vergata

Doctor of Philosophy - PhD, Mechatronics, Robotics, and Automation
Engineering · (November 2020 - October 2023)

Università di Roma Tor Vergata

Master Degree, Robotics, Automation, Computer Science · (1998 - 2005)

Università Telematica Pegaso

24 CFU, Pedagogy · (2020 - 2020)

Liceo Scientifico P. Ruffini Viterbo

High School, Physical Sciences · (1994 - 1998)