Website & Projects

PASQUALE BUONOCORE
Mechatronics Engineer

Salerno/Italia | +39 339 80 89 373
pasquale.buonocore@hotmail.it
Github | Linkedin
Youtube | Website

WHO AM I?

I am a Mechatronics engineer (based in Florence) currently working as an Embedded Software Engineer for Particle Measuring Systems, a multinational company based in Boulder, CO. Hard work, perseverance, stepping out of my comfort zone, and critical thinking are my main tools for dealing with deadlines and heavy pressure. Working and studying in international environments has allowed me to collaborate on and develop projects with Italian and non-Italian engineers in groups and independently. My main interests include embedded systems, robotics, industrial automation, and software development.

EXPERIENCE

PARTICLE MEASURING SYSTEM, FRASCATI *06/2023 - now*

EMBEDDED SOFTWARE DEVELOPER

I am currently developing embedded software for an Embedded Linux platform within the R&D group, primarily using Rust and C++ programming languages. My work involves gaining valuable experience in areas such as the Yocto Project, Linux driver implementation, and OS management.

Tools: C++, Rust, Linux, Yocto, Jenkins, Confluence, Jira, Jama, Zync Board

ITALSYSTEM SRL, AVELLINO *09/2020 - 06/2023*

MODEL-BASED DESIGN AND TEST ENGINEER FOR EMBEDDED SYSTEMS

Consulting experiences for both production and research projects. My main project involves the development of embedded software for a convertible airplane, following a Model-Based Development (MBD) approach. I have gained extensive experience in both software simulation and hardware testing for this project.

Tools: Matlab, Simulink, Stateflow, Python, C/C++, Linux, CCS, DOORS.
Normative: DO178C, DO331, MISCRA C, MAAB

ITALIAN INSTITUTE OF TECHNOLOGY, GENOVA *09/2019 - 03/2020*

MASTER'S THESIS RESEARCH: *A MODEL PREDICTIVE CONTROL APPROACH FOR FATIGUE AWARE ROBOTIC HEAVY MANIPULATION*

The research addresses motors protection from overheating when the robot handles heavy objects through an optimal control approach.

Tools: Matlab, Python, C++, Linux, ROS

EDUCATION

UNIVERSITY OF TRENTO *2017-2020*

M.S IN MECHATRONICS ENGINEERING - ROBOTICS AND ELECTRONICS 110/110

UNIVERSITY OF SALERNO *2013-2017*

B.S IN MECHANICAL ENGINEERING 110/110 CUM LAUDE

ITIS BASILIO FOCACCIA *2008-2013*

HIGH SCHOOL ELECTRICAL ENGINEER, 100/100

Skills

Programming Languages	Python | C | C++ | Matlab | Rust
Modelling & Simulation	Maple | Simulink | Stateflow | SolidWorks | Cura3D | Psim | Altium
Frameworks & Libraries	Jupyter | Matplotplib | Numpy | OpenCV | kivy | ROS
Embedded systems	Arduino | Raspberry Pi | Pic | Beaglebone | Texas F2837 | Zync Zc602
Project management	DOORS | Jama | Confluence | Jira | BitBucket | Git
Spare Time	App development | Web 3 | Stampa 3D | Drone and robots
Languages	***Native:*** Italian ***Fluent:*** English ***Interested in:*** German/French