PIERLUIGI AMATO

Cascina (PI), Tuscany, Italy | 04/07/1987 | +39 3285822051 | amato.pierluigi@gmail.com |

SUMMARY

Enthusiastic and dedicated, I worked as a Software Engineer Consultant at Leonardo in La Spezia, Italy. My main ambition is to find solutions in the company's core systems and to develop a mature and responsible approach in any task I undertake. I have improved my skills in real-time programming, linux operating systems and communication protocols. Throughout my professional career, I have improved my ability to use C and C++ combined with Matlab and Python for the purposes of data visualization. From my experience, versioning tools are an essential part of successful teamwork. **rom August 2022 to January 2024 I worked as a Software Engineer working on 6-DOF Robots using Kawasaki, Fanuc. In this year I did the design and development of the company framework used on all the latest software releases, integrating many external libraries such as MySql, Halcon, OPC, Kawasaki.** Since January 2024, I have been working as a software engineer in the maritime industry at Fincantieri NexTech. During this period, I developed analytical skills and teamwork abilities with a group of software engineers, with whom I am working on implementing a SCADA system that will enable future ships to travel with more cybersecurity-aware systems.

JOBS

- **Software Engineer, Fincantieri NexTech Pisa, 2/24-now**
  - Web Application with Blazor Web Assembly, Web Server, MVVM
  - Asp .net core API
  - grpc, https, redis and more software for creating a micro service architecture.
  - developing with blazor and C#, in the .net core 8-9
  - using Unit test tools for testing.
  - advanced analysis, testing and implementation of a real-time SCADA system.
  - Design pattern and Documentation.
  - OPC-UA, OPC-DA and ABB Plc's environment
- **Robotics and Automation Engineer, Robot System Automation, 08/22-01/24**
  - SKIA 2D graphics, used for custom USER INTERFACE
  - Matlab and Simulink for testing with hardware in the loop.
  - Desktop Application in C# for Integration with Robot
  - Company Software Version Manager (**GITHUB**)
  - C#, Custom Vision system with open Go Pro
  - Develop in C# .framework 4.8.1, Entity Framework, Polymorphism, Modbus PLC, Design Patterns: Builder, State, Observer
  - Custom Keyboard in C# .framework 4.8.1, Windows API.
  - Halcon Vision integration and pattern recognition for custom Scanner in C#, WPF in .net framework 4.8, XAML.
  - C# Server with OPC-UA Protocol.
  - Asp .net core API
- **Software Test Engineer, Akka technologies, at Mermec, AngelStar Company, San Piero a Grado (PI), Railway System, 09/21-08/22:**
  - Develop of Python log parser, OOP
- **Software Engineer, Akka technologies, at Leonardo, La Spezia, Defensive Naval Systems, 2019-9/2021:**
  - Develop of features for Real-time Operating System, Debug, log Analysis, Integrity Tests and Unit Tests
  - TCP-IP, UDP sockets
  - Mil-Std 498 Documents
  - Porting to UNIX, Linux and Windows
  - LabWindows/CVI
  - Customer logistic supports
  - Windows Provisioning (Power-Shell) and Unix bash scripts
  - Utilities software in C++ (QT) and C# console application.
- **Talentika (Start-up) in Rosignano Solvay, 2018-2019**

EDUCATION

- M.Sc, University of Pisa, Mechatronics Engineering, 2015-2019, link to the relative article: here
- Engineering professional qualification

TECHNICAL SKILLS

- **Tools:**MatLab and Simulink, Git, Visual studio: Profiling, Unit Test, Integrity Test
- **Sistemi operativi:** OS UNIX, real-time
- **Programming languages:** C, C++, Python, C#
- **Qt:** Qt Gui, MVC and design pattern.
- **Cad 3d:** SolidWorks
- **Lab Tools**

PROJECTS

- On my **GitHub**
- **RR planar joint, CASADI** Searching for an optimal solution, Casadi. Python
- **Standford Manipulator Control**
- **Unity game development:**
  - Working on a Unity3D Game, using Physics
  - Backend analysis tools, python, typescript
  - New Physics design, new ballistic for gaming design
- **Ultima Online free server:** develop of massive multiplayer game, for fun project, actually active.
  - TCP/IP Client/Server custom communication
  - Design and implementation of new features such as automated game events with match-making and simple AI
  - C# expert, Design Patterns, Events, Async, Await, Multi-threading
  - ServUO (backend) Linux porting for MONO
  - Database and Discord Rest API's
  - Multiplayer C# OOP oriented to optimization, hash map, dictionaries and list
  - Develop on ClassicUO (custom game client) with XNA graphics engine
  - Unit test and Integrity test using Visual Studio 2022
  - Debugging, Profiling and performance testing using Visual Studio 2022

Master Thesis **SSSUP**

- **Improving GNSS-Free train localization by integrating odometry with inertial data and track information.**
  In collaboration with Ansaldo-Hitachi and Scuola Superiore Sant'Anna, I've studied and developed a method for the GNSS-Free localization of a railway system by analyzing the characteristics of the route and the dynamics of the train. A **railway simulator** with dynamics, control and a set of tools for the analysis of real data have been developed.

Projects **Pisa University, MS Mechatronics**

- **Inverted pendulum with inertial wheel**
  Designing, simulating and constructing an inverse pendulum with inertial wheels. Generating the control system, using Python to test the effectiveness of the IMU as well as using OPEN GL and Multi-thread:
- **Indoor Localization** Designing a set of Embedded systems on Arm M4 using an Ultra Wide Band antenna. The systems used triangulation to locate a drone within an area not covered by GPS signal.
- **Real-time** Designing and developing a videogame with hard-real time problems. Process analysis of a real-time system with Allegro graphic tools.
- **Haptic Manipulation** Studying, analysing and controlling a haptic manipulator, using QT libraries. The device supplied lacked a user interface and a control system.
- **Path Planning** Developing a path planning control for an airplane.
- **Robust Control** Controlling of an uncertain systems with H-inf, H-2, μ using Matlab. Control of fully actuated, not linear for an Handle Robots.

Bechelor's Degree **Pisa University, Electronic Engineer**

- **Progetto e realizzazione di una scheda per misure acustiche PV orientate a funzioni di localizzazione**
  Design and Analysis of an electronic system for the study of audiometric sources using PV sensors.

OTHER SKILLS

Software MatLab, SolidWorks, Eclipse (Ide), Operating systems
Languages English: B1+ CLI, Pisa University
LATEX This document in writed in LaTeX