Mario Gómez Garcia

(Barcelona 08020, Spain)

Software Developer (Web Full Stack Developer & Big Data) / Mechanical Engineer

Mechanical engineer by the UPC with passion for technology and science. Automotive test programmer in Munich - Germany.
Always loved to learn new useful skills while improving the knowledge in areas such as programming, cyber-security, manufacturing and other technological systems. Passionate of open source software and projects, such as Linux or RISC-V.

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Techskills

Linux, Windows, Mac OS

CANoe, CAPL, LabVIEW

SolidWorks Certified SolidWorks Associate

FreeCAD, Catia V5

KiCAD, QUCS SPICE, NGSPICE

Maple, MATLAB, Scilab

LibreOffice & Microsoft Office (LibreBasic & VBA)

Softskills

Problem solver (Workaround finder when needed)

Good communication skills (Able to work in 4 languages)

Fast learner

Multidisciplinary knowledge (Form mechanical engineering to programming and electronics)

Innovative (Able to achieve innovation through a multidisciplinary set of skills)

Team Work (Always amused to work with others, learn from them and try to help for a faster, better and more optimal development)

Languages

Spanish and Catalan - (Native)

German – C1 Goethe Zert. (2019)

English – C1

Experience

Full-Stack Web Developer – ITAcademy (Barcelona – Spain) | April – September 2024

- Git, Github, Gitflow, Code review, Pair Programming
- PHP, Laravel – Javascript (JS), React, Typescript - HTML5, CSS3 (Backend & Frontend Development)
- Docker – Apache2, NginX, Redis
- Agile & Scrum
- Clean Code, SOLID, Software Architecture, Testing and TDD, DevOps – Continuous Deployment and Integration (CI/CD)

- Add a Redis DB in the Environment Docker configuration in order to store the user data (as JWTs)
- Achieved the user authentication (Using JWT and Auth2)
- Refactors of older code in order to improve speed, security and readability decreasing the code by at least 30%.
- Participated in the main refactor of the project improving more than 8 different endpoints.
- Documented more than 4 different endpoints created using Swagger.
- Helped more than 5 volunteers to join the project and speed their productivity.
- Solved all problems needed in a fast and a proper way (circa 2 by sprint).

Test engineer – Bertrandt (Munich – Germany) | 2019 - 2020

Tester for automotive products as high voltage batteries, sensors and inverters using CANoe, CANalyzer, PATools, LabVIEW and others.

Main task as test programmer following customer's specifications, builder of tests benches, results analyzer as well as informing the product's company of the current status of the process while delivering all data requested and introducing all changes needed for the continuity of the tests.

- After the first month in the company "cracked" a software used for testing in order to automatize its use and improve productivity decreasing the need of attention to the test as well as the need to stop it in order to continue with the next.
- During the first 4 months led of one HVS testing while participating in 2 other testings as third programmer.
- Developed several main stones of the software in order to charge and discharge the batteries taking into account its SoC (State of Charge) and various physical cell values improving accuracy and speed by more than 10%.
- Built and automatized more than 3 work benches in order to carry on the HVS tests.
- Participated in other projects as a helper for testing inverters, sensors and other devices destined for the electrical automotive sector.
- Automatized the profile test for a battery in a shaker workbench using several module power sources.

Particular lessons | 2014 – 2017

- Taught for ESO, Baccalaureate and College subjects.
- Taught in German language while in Germany for several Abitur pupils. (Science subjects and English).

Education

Mechanical engineering degree - UPC – EEBE | September 2012 – July 2018

- Bachelor Thesis at the Hochschule Landshut, Germany (Grade: 1.2 (Germany) or 9.2/10)

Further training

Big Data Bootcamp - IT Academy (Barcelona) | April 4th 2024 – June 30th 2024

Grade: 98%

Jupyter-Notebook
Apache Hadoop
Apache PySpark

Developed a Big Data Algorithm in order to calculate the nutrients of a specific recipe by its ingredients and official databases. Use Hadoop Apache, PySpark and Docker for this task.

Full Stack PHP Bootcamp - IT Academy (Barcelona) | November 27th 2023 – April 4th 2024

Grade 96%

- PHP – phpUnit, Composer
- HTML5, CSS3 (Responsive Design), Tailwind, Javascript
- Laravel – Breeze, Livewire, Passport, Spatie, SMTP, Laravel Components, API Development
- API Testing – SoapUI, Postman, phpUnit
- SQL & NOSQL Databases – MySQL/MariaDB, MongoDB – DBeaver, DBSchema
- React – AJAX Application
- oAuth2
- Docker & Docker Compose
- Apache2 & NginX
- Git & GitFlow
- Test Driven Design (TDD)
- Programming Patterns – MVC, Singleton, Adapter, Strategy

Cyber Security Bootcamp - Foundation 42 (Barcelona) | Summer 2023

- Python
  - Basics – Variables, Conditionals, Loops, Functions, Decorators, Pip
  - CTypes, Threads, Multiprocessing
  - Beautiful Soup, Regex, Pillow
- C
  - Basics – Variables, Pointers, Conditionals, Loops, Functions, Structures
  - GCC
  - Valgrind – Memory Sanitize
  - OpenSSL, LibPCap, TCPDump
- Encryption
  - Symmetric Encryption
    - Fernet, AES 128, AES 256
  - Asymmetric Encryption
    - RSA
- Metadata Theory and Processing
- Forensics for Windows 10
- Monitoring and Alarming for Linux
- OTP (One Time Password) – Two Factor Authentication
- ARP Spoofing
- Onion and Thor – Hidden Service with NginX using Docker Containers
- Ransomware
- SQL Injection

TUM Lean SixSigma Yellow Belt

Other courses

- A Hands-on introduction to Engineering Simulations (Cornell Univeristy – edX)
- Embedded Systems – Shape the world: Micro-controller Input/Output (UTAustinX, 2018)
- Embedded Systems – Shape the world: Multi-Threaded Interfacing (UTAustinX, 2018)
- Embedded Systems – Real Time Bluetooth Networks - Shape the world* (UTAustinX, 2018)
- Created a simple video game using C for an ARM embedded device and built the gaming console as a prototype. https://www.youtube.com/watch?v=6O7Ld1Xx2HY
- Health care course level I

Interests

IT, Science, Electronics (Digital and Analog Hardware), Manufacturing, Languages
Sports (Basketball, Volleyball, Hiking)
Music (Guitar player)

Other data

Class B driving license
One-star scuba-diving license