

Oscar Forner Martinez

I am a software engineer who likes challenges when I am working in a project, I really enjoy applying advanced algorithms and data structures to solve problems in an efficient and elegant way.

Education

- 2010-2013** **Bachelor of Engineering in Computer Science;** Universitat Jaume I (Spain)
Degree Thesis: Analysis of authentication radiofrequency systems and RFID. Mark gained: 95%
Advanced Data Structures, Compilers and Interpreters and Distributed Systems
- 2006-2010** **Associate Degree in Computer Science;** Universitat Jaume I (Spain)
Degree Thesis: Secure platform for advanced electronic signature. Mark gained: 92%
Operating Systems, Real Time Operating Systems and Embedded Systems

Experience

- 2015-Present** **Software Developer at Programming Research**
I have been working in a couple of projects during my time at Programming Research.
-Static analysis of code: Checks if the code has some patterns that have an *undefined behaviour*, *unspecified in the Standard*, and/or *implementation-defined*.
-Dataflow analysis of code: Checks the complexity of methods, pointer problems, memory handling, etc.
- 2013-2015** **Software Engineer at European Bioinformatics Institute**
One of my duties was to create a RESTful service to allow users to query for information about multiprotein complexes.
In addition, I developed an algorithm to cluster biological information from proteins.

Courses

- April 2016** **LFD331: Developing Linux Device Drivers;** Linux Foundation
- March 2016** **LFD320: Linux Kernel Internals and Debugging;** Linux Foundation
- August 2015** **Agile for developers;** Accelebrate
- November 2014** **Algorithms, Part II;** Coursera, Princeton University

Technical Experience

Open Source	All my personal development is done using and for Open Source. All my collaboration with Open Source projects can be found in my GitHub account.
Manjaro Linux	I collaborate with the development of the Manjaro Linux distribution. I took part in the development of the hardware detector to allow the user to install the right drivers.
Prefix Tree	I created a project to compare the performance in different <i>Prefix Tree</i> such as Trie , Ternary Search Tree and Radix Tree . I used several cutting edge technologies like: C++11, Google Test (for unit test) and Conan (for dependencies manager).
Linux Kernel	I have been studying the Linux Kernel from the beginning of 2015. First, I read books such as “ <i>Understanding Linux Kernel</i> ” and “ <i>Linux Decide Drivers</i> ”. Nowadays, I am taking the Eudypatula Challenge .
Personal blog	I have a personal blog where I write about different topics I think people can be interested in. Usually, it is about new technologies and how to use them or tricks and tips I found out resourceful or important.
Programming Languages	<p>C++: I have been using C++ for several years in different projects and technologies. For multithreaded applications I used Pthreads and OpenMP, I had some experience with MPI for distributed systems. C++11/14 to explore the new features included. Boost to have access to the <i>filesystem</i>, <i>networking</i>, <i>smart pointers</i> and <i>testing/mocking</i>. Google Test to use it as a unit test framework without big dependencies. Conan as a dependency manager. CMake to build projects. GDB for debugging applications. Valgrind/Perf to measure performance and find bottlenecks.</p> <p>C: I used C for low level programming, such as Linux Kernel Drivers for Real Time Operating Systems RTAI and to create a new scheduler using the Rate-Monotonic algorithm. Moreover, I used C in Embedded Systems to create applications to control industrial systems using Syscalls.</p> <p>ARM: I am learning the ARM assembly for ARMv8. For that I am using a Beagle-Bone Black to play with it. Moreover, I started the project ARM C Compiler (ACC) to learn properly all the aspects of the architecture.</p> <p>Good knowledge of: Python and Bash with scripting purposes.</p>

Languages

Spanish	Native
English	Working knowledge

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