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.

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 handeling, etc.

In addition, I had to take over two projects to refactor, maintain and add new features.

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

September 2014 **Algorithms, Part I**; Coursera, Princeton University

Education

2010-2013 **Bachelor of Engineering in Computer Science**; Universitat Jaume I (Spain)

Advanced Data Structures, Compilers and Interpreters and Distributed Systems

2006-2010 **Associate Degree in Computer Science**; Universitat Jaume I (Spain)

Operating Systems,Real Time Operating Systems and Embedded Systems

Technical Experience

Open Source — All my personal development is done using and for Open Source. All my colaboration with Open Source projects can be found in my **GitHub** account.

Agile Methodologies — I have experience working with **agile methodologies** such as **Scrum** and **Kanban**. Moreover, I work using techniques such as **code review**, **pair programming** and **TDD**.

Prefix Tree — I created a project to compare the performance in different *Prefix Tree* such as ***Trie***, ***Ternary Search Tree*** and ***Radix Tree***. I used several cutting edge technologies such as **C++11**, **Google Test** (for unit test) and **Conan** (for dependencies manager).

ARM C Compiler (ACC) — I am working on creating a **self-hosting compiler** for **C** in the **ARM** architecture. I started this project to learn properly all the aspects of the **ARM** architecture and improve my **knowledge of compilers**.

Linux Kernel — I have been studying the Linux Kernel since the beginning of 2015. First, I read books such as "*Understanding Linux Kernel*" and "*Linux Decide Drivers*". Nowadays, I am taking the **Eudyptula 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 — **C++:** I have been using C++ for several years in different projects and with several technologies. ***C++11/14*** and ***Boost*** to explore the new features. ***Google Test/Mock*** to use it as a unit test framework without big dependencies. ***Conan*** as a dependency manager. ***CMake*** to build projects. ***GDB*** for debugging applications. ***Perf*** to measure performace and find bottlenecks.

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.

ARM: I am learning the ***ARM assembly*** for ARMv8.

Good knowledge of: ***Python*** and ***Bash*** with scripting purposes.

Languages

Spanish — Native

English — Working knowledge

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