

Embedded software Engineer Intern

Internship reference: VOSYS_2017_IN_001

Starting date and duration: February 2018 (6 months)

Type of contract: Full time internship

Monthly salary: 1100€ gross salary

Work location: Grenoble (Rhône Alpes), France

Description and objectives:

The intern will be part of the embedded software team that focus on highly critical environments, such as automotive use-cases, with a main product, called VOSYSmonitor, which enables the consolidation of several applications (Linux, RTOS, etc) with different levels of criticality on a single multi-core heterogeneous platform.

The purpose of this internship will be split in two main parts:

- The intern will have to implement a framework, based on a scripting language (e.g., Python), in order to ease the definition of custom interaction between both Operating Systems (OSs) executing on top of VOSYSmonitor. After a first familiarization with the software environment (C and ARM Assembly), the intern will have to determine the specific parameters to define the interactions between both systems in order to implement the corresponding framework that will be able to generate a C file needed for the control of OS co-execution. The intern shall also write the corresponding documentation of the framework.
- The intern will work on a graphics display solution for automotive industry in order to display information from two OSs on a single screen by preserving the output of the critical applications. The effort of the development will be focused on the isolation and management of the resource related to the graphics pipeline, and the implementation of a set of co-operative device drivers between different Oss (e.g., Linux and RTOS), with respect to safety and isolation.

During this internship, the intern will be able to work on the latest ARM 64-bit architecture (ARMv8-A) as well as mixed-criticality systems, involving ISO standards used in the automotive industry. The intern is expected to be source of proposal, actively participating in the team.

Activities:

- ARM architecture analysis
- Implement a framework based on scripts
- Graphics device driver development
- Stage report focusing on obtained results beyond the state of the art
- Scientific paper dissemination

Required skills:

- Linux basic knowledge (bash)
- Experience with GIT
- Skills in C and script languages (e.g. Python).
- Excellent communication skills and good teamwork are needed
- Written and spoken English communication skills
- Experience with ARM architecture
- Experience with the DRM and V4L2 subsystems of the Linux kernel.

How to apply

Any application (resume+cover letter preferably in PDF format) should be sent by email at the following address : contact@virtualopensystems.com