



Student internship (5-6 months) – Software engineer

Punctual data rendering engine

Company

Part of the ENGIE group, SIRADEL develops « Smart Cities » software, including its unique ability to produce 3D models of cities, its RF design services, and its wireless networks and urban projects planning and optimization services.

An end of study internship position is available in the software engineering team, which is responsible for designing, implementing and maintaining software solutions at SIRADEL. **This internship may lead to a permanent position as a software engineer.**

Context

This internship fits within the development of our Smart Cities 3D visualization platform.

Description

The goal of this internship is to develop a highly scalable punctual data rendering engine.

Punctual data are simple points marking points of interest or instancing 3D models such as trees, street lights or road signs. They contain attributes used to modify their appearance.

As a first step, the intern will develop a system able to render a very large amount of points.

The second part will be focused on the appearance of these points: as sprites, 3D models, with level of details, etc.

Advanced topics could be explored such as GPU-driven rendering.





Technical Environment

- C++, OpenGL

Prerequisites

- C++, OpenGL, parallel programming

Topics (not prerequisites)

- Data-oriented programming
- Computer architecture, low-level programming (vector instruction sets, CPU caches, ...)
- GPU-driven rendering

Profile

This internship suits an autonomous software engineering student, with a solid knowledge of software development and willing to become involved in a high tech domain such as information and communication technologies.

It will suit a student interested in raw performance problems and real-time rendering particularly well.

Duration : 5 to 6 months. From February 2019.

Location : Rennes, France

Contacts

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Référence : SE-19-05