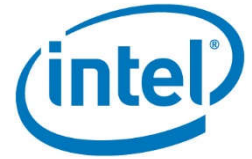


**Internship subject**  
**Complex 3D data web-based views for cloud application**



**Our team**

Within Intel, our team develops power and thermal simulation products, to enable early virtual prototyping for the next generations of Intel products. The [Intel Docea simulation solutions](#) we develop enable design optimization (longer battery life, more efficient architectures) by enabling the estimation of the power consumption 3 years before the products are shipped.

Our team, based in Moirans (Grenoble area) France, works in an exciting innovating and international context being tightly connected to other Intel teams architecting the future client and server Intel products, but also with external customers from different continents.

**Internship description & objectives**

The main thermal product we develop is a traditional desktop application (written in Java & C++) that enables a thermal engineer to both model and simulate a complex system on his workstation. However, because of the increasing complexity of designs, more and more people contributions are required to put together a single study. For this reason we started to move to a web application to leverage collaboration and reuse. One challenge associated with this migration towards a cloud solution is the graphical rendering of complex 3D data, such as models, or simulation results, because graphics is historically tightly linked to hardware layers (OpenGL...).

The objective of this internship will be to design and prototype web-based thermal analysis views, composed of 3D data rendering (typically a physical model, simulation results...) and analysis controls (display and colouring options, post-processings definition...). To do so, the intern will heavily rely on the new web capabilities of the well known VTK library, in particular its Python binding and its Javascript reimplementations based on WebGL. This is a technical internship, well-suited for students who are keen on learning new technologies related to web services, web development, and cloud applications. It will include some UI and UX and should be very visual.

**Student qualification**

Final year of French Engineering school or Master's degree, preferably with a focus on computer sciences or web development.

The student must have proficiency in both written and spoken English. He/She must be proactive, autonomous and have problem solving ability, and willingness to learn.

**Appreciated skills**

- Some academic knowledge related to web development (client / server architecture, web oriented languages...)
- Previous experience (at least academic) in JavaScript, some knowledge in Python
- Knowledge regarding VTK library or 3D data visualization is a plus.

**Other**

Location: Moirans, France (Grenoble area)

Starting date: between february and april 2020.

Duration: ~ 6 months