

Transforming the Future with the Convergence of Simulation and Data

Mechanical Engineer: Crash / Safety Internship

Do you like a challenge, are you a complex thinker who likes to solve problems? If so, then you might be the new Altairian we are searching for. At Altair, your curiosity matters. We pride ourselves on a business culture that enables open, creative thinking, and we deeply value our employees and their contributions towards our clients' success, as well as our own.

Job Summary:

The quick emergence and development of Light Rail Transit or 'tram' within the urban areas is bring new safety challenges for vulnerable road users (pedestrian or cyclist). Indeed, poor maneuverability, long braking distance, and distraction of VRUs are some sources of the occurrence of tram accident. The goal of this internship is to virtually explore 'tram' impact conditions involving pedestrian and the consequences in term of injury criteria. To achieve this goal, following process is proposed:

- Create RADIOSS Human body model (HBM) shall be derived from an existing public model
- Create a RADIOSS model of generic front end of 'Tram'
- For each crash scenario identified, Position the HBM and perform crash simulation against the 'tram'
- Assess injury criteria and suggest protective counter measure (tram design change or ...)

You will work in collaboration the LBA (Laboratoire de Biomécanique de Marseille) and Altair.

What You Will Do:

- Follow Altair training courses, with particular focus on RADIOSS, HyperWorks, HyperView and HyperGraph
- Use Altair HyperWorks to perform the initial conversion of the existing Human Body model into RADIOSS and document your findings
- Update the RADIOSS Human Body for numerical stability and Robustness
- Validate the model by comparing its response to the one from the literature
- Setup identified tram/pedestrian crash conditions and run them using RADIOSS
- Post process the simulation (Injury Criteria) and try to identify crash severity countermeasures

This project is the opportunity for you the have a great knowledge of the behavior of a well-established Human Body Model in the industry and gain knowledge of Altair HyperWorks Suite, which is a standard in the CAE industry.

What You Will Need:

Basics:

- Strong background in structural Mechanics
- Strong mathematical / numerical knowledge of Finite Elements Solutions
- Familiar with FEA proven experience of using Industrial Softwares
- Proven experience of using Industrial Software for structural analysis

Preferred:

- Proven experience using explicit code for crash analysis (RADIOSS or Dyna)
- Expertise in HyperWorks for pre and post processing

How You Will Be Successful:

- **Envision the Future**
- **Communicate Honestly and Broadly**
- **Seek Technology and Business “Firsts”**
- **Embrace Diversity and Take Risks**

What We Offer:

- Start date: ASAP for 6 months
- Location: Antony (92) or Marseille (13)
- Gross monthly salary: 1 100 €
- End of internship bonus up to 500 € depending on the achievement of objectives
- Allocation of lunch vouchers: 8.50 €/day (50% participation of the trainee)
- Reimbursement of 50% of the transport ticket (under proof)

If you are interested, please send your application to Franck Njilie: fnjilie@altair.com

Why Work with Us:

Altair is a global technology company providing software and cloud solutions in the areas of product development, high-performance computing (HPC) and artificial intelligence (AI). Altair enables organizations in nearly every industry to compete more effectively in a connected world, while creating a more sustainable future. With more than 3,000 engineers, scientists, and creative thinkers in 25 countries, we help solve our customer's toughest challenges and deliver unparalleled service, helping the innovators innovate, drive better decisions, and turn today's problems into tomorrow's opportunities.

Our vision is to transform customer decision making with data analytics, simulation, and high-performance computing and artificial intelligence (AI).

For more than 30 years, we have been helping our customers integrate electronics and controls with mechanical design to expand product value, develop AI, simulation and data-driven digital twins to drive better decisions, and deliver advanced HPC and cloud solutions to support unlimited idea exploration. To learn more, please visit altair.com.

Ready to go? #ONLYFORWARD

At our core we are explorers; adventurers; pioneers. We are the brains behind some of the world's most revolutionary innovations and are not only comfortable in new and uncharted waters, we dive in headfirst. We are the original trailblazers that make the impossible possible, discovering new solutions to our customer's toughest challenges.

Altair is an equal opportunity employer. Our backgrounds are diverse, and every member of our global team is critical to our success. Altair's history demonstrates a belief that empowering each individual authentic voice reinforces a culture that thrives because of the uniqueness among our team.