



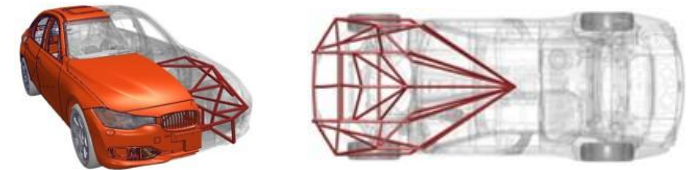
A Deformation Order Analysis Tool for Vehicle Structures in Crashworthiness Design

Project Characteristics

Modeling: ★★★★★☆
Mathematics: ★★★★★☆
Programming: ★★★★★★

Setting:

- Early phase vehicle structure design
- Necessary data for more detailed models (FEM) not yet available
- Prediction of crashworthiness through physical surrogate models
- Multiple load paths consisting of deformable and non-deformable components
- Non-deformable parts create offsets in the deformation front
- Possible changes in the order of deformation



Your Tasks:

- Develop a python application that analyzes a provided model
- Identify all possible deformation sequences
- Identify resulting deformation for specific masses and force-deformation behavior
- Create a visualization using Blender animation software for both general and specific deformation sequences

