A Load Path Analysis Tool for the Vehicle Structure in Crashworthiness Design

- Load paths study in the entire vehicle is necessary.

- To extract the load paths, a tool to analyze the load flow within vehicle structure should be created.

- The tool starts with standard Abaqus output (*.odb), analyzes the stress output and generates the load flow in Lagrangian coordinate system.

- Your Tasks:
  - Refine the current algorithms to calculate load flow vector field.
  - Define a filter to adapt the element stress precision to different scales.
  - Create a python tool based on Abaqus python API and mayavi for visualization, thus determine the load paths.

- Programming language: Python (mayavi, Abaqus API)

Project Characteristics

Mechanics: ★★★★☆
Mathematics: ★★☆☆☆
Programming: ★★★★★

X force flow