

CarSim

A System that Creates 3D Scenes of Road Accidents from Written Reports

CarSim is a program that analyzes texts describing car accidents and visualizes them in a 3D environment. CarSim consists of two modules that communicate using a template. A first module extracts information from the accident description and fills the template. A second module creates a symbolic 3D scene of the text from the template. The template is designed so that it contains the information necessary to reproduce and animate the accidents.



CarSim extracts the static and the dynamic objects described in the texts. It uses collision verbs to detect the accidents and actors. It searches specific verb patterns and extracts their dependents. It evaluates the dependents' functions, classifies the words using an ontological hierarchy, and fills an XML template representing the accident. The CarSim visualizer then synthesizes the 3D scene.



A first version of CarSim could process texts in French. We adapted CarSim to English and reports from the National Transportation Safety Board (www.nts.gov). We are implementing a new system to process accident descriptions from Swedish newspapers and the Vägverket STRADA database.

As far as we know, CarSim is the only text-to-scene converter applied to non-invented narratives.

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