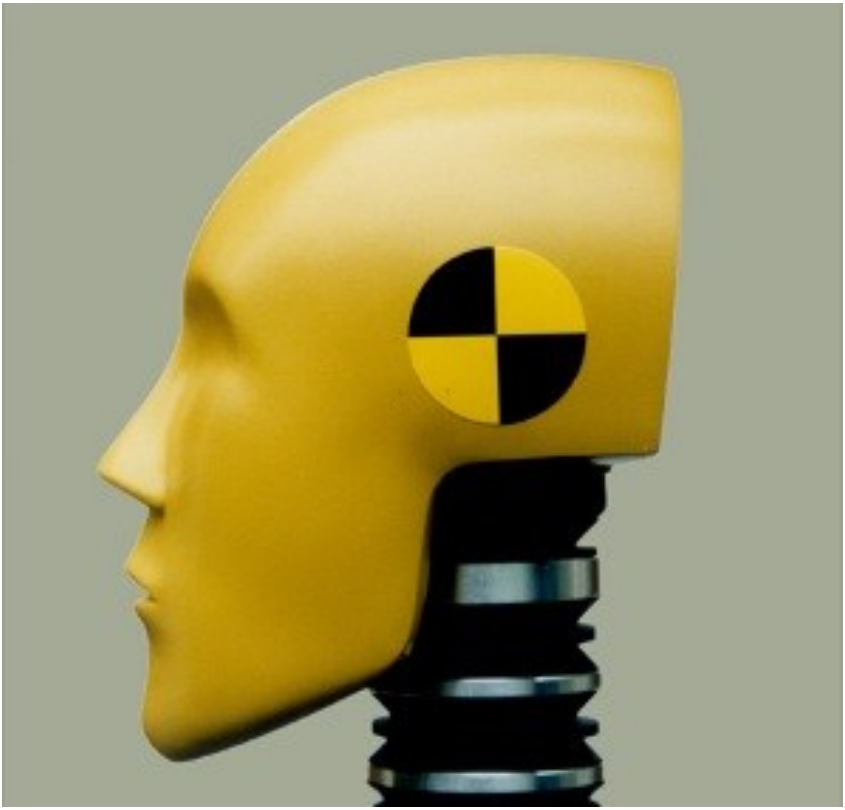
BIRMINGHAM CITY University

Research

Innovations in vehicle crash testing

Our research in vehicle crash testing has led to significant impacts on the professional practice of the global vehicle crash testing industry.



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Background

Undertaken between 1996 and 2006, our research in this area has led to significant impacts on the professional practices of the global vehicle crash testing industry.

Under the direction of Professor Cham Athwal, the team in the Digital Media Technology (DMT) Lab pioneered innovative technologies based on the analysis of multimedia data models.

Typically such data involves photographs from still cameras at different angles, films from high-speed video cameras and numerical values from sensors placed at points of interest on objects such as vehicles and dummies.

This research has developed specialised algorithms to allow efficient analysis of the data. It was also discovered that time synchronisation of video, transducer and simulation data was particularly powerful for the discovery of pertinent design weakness.

These investigations have allowed for the realisation of sophisticated multi-media systems in education, engineering, and manufacturing.

"These systems have made a substantial economic impact on MIRA by attracting new business and developing a high reputation of pioneering cutting edge technologies in the crash test field."

- Dave Hockton, Senior Operations Manager, MIRA

Impact

Initially realised through an award-winning technology transfer programme with MIRA, the systems have been widely deployed by leading crash test organisations, supporting faster vehicle design iterations and contributing to the design of safer vehicles. The research has formed the basis of the new ISO/DTR 13499 international standard and has been of great benefit in analysing rail safety and testing aircraft seats.

To find out more, visit the project page at **bcu.ac.uk/research/stories**