Ryan Fix BSME PE

Project Engineer

contact

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expertise

Collision Reconstruction

areas of specialization

Seat belt investigation

Collision reconstruction

Low speed collisions

Ryan Fix is a project engineer with MEA Forensic's Collision Reconstruction group in the Los Angeles office. When investigating motor vehicle accidents, he gathers evidence from site and vehicle inspections and then applies engineering principles to determine how fast the cars were going and where were they in the moments leading up to the collision. Over his 12 years of reconstructing accidents, Ryan has worked on cases involving cars, trucks, tractor trailers, trains, and buses.

Ryan has a Bachelor of Science in Mechanical Engineering from the University of California, Los Angeles, and has been registered as a Professional Engineer in California since 2009.

Ryan routinely downloads data from the event data recorders that are found in modern cars. He is also trained to collect black box data from heavy trucks and buses. While cars store data in their on-board airbag control modules, heavy trucks and buses store information in engine control modules which monitor fuel efficiency, hard braking events, idle time, and other driver performance metrics for trucking companies. This data can be used along with the physical evidence to piece together the sequence of events of a collision.

Ryan has published peer-reviewed research papers on a number of topics including how to determine speed from damage, suspension behavior and finite element analysis (FEA). FEA is an accepted, but computationally demanding, engineering method for determining how an object will deform in response to an impact force. Ryan is finding ways to apply this method to the analysis of crash damage. "We are always looking for new and better ways to reconstruct accidents."

education

Bachelors of Science, Mechanical Engineering, University of California, Los Angeles, 2006

professional status

Registered Professional Engineer, State of California, License No. M34492.

professional associations

California Association of Accident Reconstruction Specialists (CA2RS), since 2007

Society of Automotive Engineers (SAE), since 2008

Southwester Association of Technical Accident Investigators (SATAI), since 2018

professional experience

MEA Forensic Engineers & Scientists
Project Engineer, 2006 to present

Responsible for technical investigations involving motor vehicle accident reconstruction and failure analysis. Performs site and vehicle inspections, speed change analysis and participates in research and crash tests. Involved in over 1000 technical investigations related to motor vehicle collisions, bicycle collisions, and pedestrian impacts.

publications

Comparing Event Data Recorder Data (EDR) in Front/Rear Collisions from the Crash Investigation Sampling System (CISS) Database

Finite element analysis to analyze the properties of pole impacts

Using Force-Displacement Data to Predict the EBS of Car into Barrier Impacts

Front and Rear Car Crush Coefficients for Energy Calculations

lectures & presentations

October 2007 – CAARS Conference, Offset Impacts.

April 2010 – Society of Automotive Engineers World Congress, Front and Rear Car Crush Coefficients for Energy Calculations.

training and professional development

March 22–25, 2021 – iNPUT-ACE Video Evidence Symposium 2021, Online.

January 23-26, 2018 – PC-Crash live training: Essentials and Advanced, Irvine, CA.

July 18, 2017 – Rail Safety Training Course, Los Angeles County Metropolitan Transportation Authority, Los Angeles, CA.

March 6-8, 2017 – 2017 Event Data Recorder Summit, Houston, TX.

June 2016 – Diagnostic Forensics of Heavy Vehicle Event Data Recorders, University of Tulsa, Tulsa, OK.

December 15, 2014 – Rail Safety Training Course, Los Angeles County Metropolitan Transportation Authority, Los Angeles, CA.

April 2014 – Society of Automotive Engineers World Congress, Detroit, MI.

July 30 to August 3, 2012 – Event Data Recorder Use in Traffic Crash Reconstruction, Irvine, CA.

April 2012 – Human Factors for Traffic Crash Reconstruction, Crash Safety Research. Sacramento, CA.

December 2011- Accessing and Interpreting Heavy Vehicle Event Data Recorders, CA.

April 2010 – Vehicle Accident Reconstruction Methods, Detroit, MI.

April 2010 – Society of Automotive Engineers World Congress, Detroit MI.

January 2010 – Crash Data Retrieval Users Conference, Houston, TX.

August 2009 – CAARS Motorcycling Testing, Santa Rosa, CA.

April 2008 – Society of Automotive Engineers World Congress, Detroit, MI

November 2007 – PC-Crash Expert Animations, Las Vegas, NV.

October 2007 – CAARS Crash Testing, Anaheim, CA.

June 2007 – PC-Crash Essentials Workshop, Las Vegas, NV.

February 2007 – Crash Data Retrieval Technician Course, Anaheim, CA.