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Curriculum Vitae

Elvis Donny Desai, M.S.

Accident Reconstruction

OVERVIEW

Mr. Desai is an Automotive Engineer and accident reconstructionist and has been working in these fields since 2017. Mr. Desai holds a Master of Science degree in Automotive Systems Engineering with a specialty in Vehicle Safety from The Kettering University and he holds a Bachelor of Science in Automotive Engineering from LDRP Institute of Technology and Research India.

He has extensive experience conducting complex 3-dimensional accident reconstructions and simulations. He performs mechanical inspections for component failure and drivability issues in light-duty passenger vehicles, heavy trucks, and other equipment. Mr. Desai is qualified to download and analyze all types of Event Data Recorders and Bosch Crash Data Retrieval (CDR) data.

AREAS OF EXPERTISE

- Vehicle Accident Reconstruction
- Vehicle/Pedestrian Accident Reconstruction
- Vehicle equipment, mechanical component failure
- EDR & HVEDR data imaging and analysis
- Computer reconstruction and simulations
- Computer Aided Design and photogrammetry analysis
- TEMA automotive | LS-Dyna | MATLAB | Simulink

EDUCATION

June 2019 **Kettering University (GMI)** – Flint MI
Masters of Science, Automotive Systems Engineering

Classes focused on vehicle safety including investigation and analysis of vehicle - Pedestrian accidents, federal safety standards, vehicle dynamics and simulations.

June 2017 **LDRP Institute of Technology and Research** – Gandhinagar, India.
Bachelors of Science, Automotive Engineering

EMPLOYMENT HISTORY

Jan. 2020 - Present **JS Forensic Consulting, LLC** – Carlsbad, CA
Accident Reconstructionist – Engineer

Accident Reconstructionist specializing in reconstructions and analysis of low- and high-speed accidents involving automobiles, tractor-trailers, trucks, pedestrians, and other equipment and vehicles in all modes of collision, including small overlap impacts, rollovers, and underrides/overrides. Perform reconstructions, recreations, analysis including pedestrian, vehicle, and tractor-trailer accidents. Analyze failure modes of automotive mechanical components and mechanical systems, including brake, suspension, powertrain, bearings, engine, and drivetrain. Analyze vehicle dynamics and performance, vehicle kinematics, occupant kinematics, advanced vehicle technologies, and vehicle systems.

- Sep 2017 - **Kettering University** – Flint MI
 Dec 2019 **Kettering University Research assistantship** – Mechanical Engineering Department
 Performed video and EDR data analysis of vehicle and pedestrian crash testing. Learned the in-depth procedure for vehicle accidental reconstruction. Conducted comparison and analysis of pedestrian reconstruction equations and methods.
- June 2016 - **Virtual Business LLP** – Ahmedabad, India
 July 2017 **Associate Design Engineer** Industry level experience of CATIA V5 and PTC Creo for designing and testing of mechanical components for product failure analysis in Medical Swing Project. Creating Virtual simulation reports for products for testing of Medical Swing Project. 13% reduction in overall weight of the product with design updates that also reduced the packaging size to 2/3.

CONTINUING EDUCATION

- 3M Technology Talk: Improve Road Safety with Wet Reflective Pavement Markings WebEx. An informative session on the benefits of wet reflective road markings. 3M will cover the safety and science of how markings work in rainy conditions. Then hear from Texas A&M Transportation Institute on the findings from a recent study on wet retro reflectivity standards. Additional discussion was held on factors to consider when building a specification or standard for wet reflection. April 2020
- WCX19: SAE World Congress, Detroit, MI. Industry experts spoke on various topics related to human factors in driver vision and lighting, autonomous vehicles, retroreflective materials, accident reconstruction, automotive lighting, event data recorders, and occupant safety. April 2019
- Expert Talk at Kettering University. An informative lecture on the Vehicle accident reconstruction process involving Heavy truck and in-depth case study of 2 accident involving pedestrians at different projection trajectory. Jan 2018
- WCX18: SAE World Congress, Detroit, MI. Industry experts spoke on various topics related to human factors in driver vision and lighting, accident reconstruction, automotive lighting, event data recorders, and occupant safety. April 2018

RESEARCH RELATED ACTIVITIES

- Vehicle Pedestrian Crash Analysis: Performed video and EDR data analysis of vehicle and pedestrian crash did on the live environment using TEMA automotive. Learned the in-depth procedure for vehicle accidental reconstruction process. Comparison and study of current available Throw distance v/s vehicle speed formulas. Added correction to existing formula
- LS-Dyna Independent Study [Crash Analysis of actual car crash box]: Modeled an actual crash box in Solid works in CATIA V5. Defining the properties of Crash Box and Impactor with initial and boundary conditions in LS-Dyna. Simulated the crash in Pre-Post solver for failure and stress analysis. Reduced the error by 3% from previous simulation. Added correction to existing formulas.
- Study of HEV Chevrolet Bolt 2018 (MATLAB - Simulink): Chevrolet Bolt engine curve analysis on different driving cycles with road load and power requirement on different road conditions. Using MATLAB and Simulink. Generated reports on comparison of engine powered v/s battery powered Chevrolet bolt 2018.

