a.b.moore
Forensic Engineering

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ALAN B. MOORE, P.E., ACTAR

Mr. Moore has extensive experience and training in vehicle accident reconstruction and product failure analysis. He regularly evaluates accidents involving passenger vehicles, heavy trucks, and motorcycles. His expert testimony has been accepted by state and federal courts. Mr. Moore developed a comprehensive knowledge of the automotive industry through vehicle design experience with Ford Motor Company and General Dynamics Land Systems.

In 2013, Mr. Moore recognized the upcoming need for forensic evaluation of ADAS (Advanced Driver Assistance Systems) in order to assist clients in evaluating vehicle accidents and alleged product defects involving the technology. He has conducted extensive testing on Collision Warning, Automatic Emergency Braking, Lane Keep Assist, and ADAS sensor fusion.

In addition to comprehensive training as a professional test driver, Mr. Moore was a motorcycle safety instructor certified by the Motorcycle Safety Foundation. Mr. Moore teaches a course on ADAS with the Society of Automotive Engineers and is a guest lecturer at the University of Florida, College of Law.

Education:
BSME – Mechanical Engineering, Michigan State University, 1993
MBA – University of Florida, 2007

Certificates:
Board Certified Forensic Engineer - National Academy of Forensic Engineers
Registered Professional Engineer – Florida
Certified Accident Reconstructionist - ACTAR
International Registry – U.S. Council for International Engineering Practice
High Performance Driving Instructor, Porsche Club of America
Florida Commercial Driver's License - Combination vehicles, doubles/triples, and tank trailers
Certified Motorcycle Safety Instructor – Motorcycle Safety Foundation (MSF) and Florida Department of Highway Safety and Motor Vehicles, 2002-2006
FAA Licensed Part 107 Drone Pilot (FAA Airman Certificate, Remote Pilot, Small Unmanned Aircraft System)

Membership:
Society of Automotive Engineers – Peer Reviewer, ADAS and Autonomous Vehicles
National Society of Professional Engineers
National Association of Forensic Engineers, Senior Member
Human Factors and Ergonomics Society, Safety and Surface Transportation Technical Groups

Specialized Training:

Recon-3D LIDAR Scanning – AID-3D, 2023
STAMP Smart Signal Dashboard – FDOT 2023
Point Clouds in Collision Reconstruction: Speed from Video and Crush from Photos – Lightpoint Scientific, 2022
Collision Reconstruction Analysis with Laser Scanned Exemplars – Lightpoint Scientific, 2021
Photogrammetry and Analysis of Digital Media – SAE, 2021
Advancements in Technology for Calculating Speeds – Video Evidence Training Symposium, 2021
Photogrammetry for Forensics – AI2-3D and University of Toronto, 2020
Merging Laser Scan & Unmanned Aerial Vehicle Point Clouds using CloudCompare - FARO, 2020
Collision Avoidance and Driver Support, Course ID 34S34W1 – Ford Customer Service Division – Technical Training, 2019
Protection of Human Subjects in Research – Institutional Review Board – Virginia Tech, 2018
Windshields and Advanced Driver Assist Systems (ADAS), I-CAR, 2018
Florida Automated Vehicles Summit – Florida Department of Transportation, 2017
ADAS (Advanced Driver Assistance Systems) Application: Automatic Emergency Braking – SAE, 2017
Introduction to Highly Automated Vehicles – SAE, 2017
Symposium on Traffic Safety – IPTM, 2017
Accessing and Interpreting Heavy Vehicle Event Data Recorders – SAE, 2016
World Reconstruction Exposition – WREX, 2016
Injuries, Anatomy, Biomechanics & Federal Regulation – SAE, 2015
Force Deflection and Work/Energy Principles for "Missing Stiffness" Vehicle Impact Analysis – NAFE, 2015
FARO Laser Scanner – FARO, 2014
Vehicle Frontal Crash Occupant Safety and CAE – SAE, 2014
Advanced Crash Reconstruction Utilizing Human Factors – Northwestern University, 2013
Highway Engineering: Driver, Pedestrian, Vehicle & Traffic Characteristics – Red Vector, 2013
Better Roadway Design - Lane Assignment, Signals & Lighting – Red Vector, 2013
Heavy Vehicle Electronic Control Module Data Use In Reconstruction - University of North Florida, 2012
Optics, Lighting and Visibility for the Forensic Investigator – OTARA, 2011
Advanced Material Damage Analysis – I-CAR, 2011
Driver, Pedestrian, Vehicle & Traffic Characteristics Overview – RedVector, 2011
Geographic Information Systems – RedVector, 2011
Photogrammetry for Accident Reconstruction – EOS Systems Inc., 2010
Advanced HVE-3D – EDC, 2010
Special Problems in Traffic Crash Reconstruction – IPTM, 2009
Advanced HVE-2D – EDC, 2008
Florida Building Code – Engineer Educators, 2008
Human Factors for Traffic Accident Reconstruction – Accident Dynamics, 2008
Precision and Stunt Driving Clinic – Grady Bishop, 2008
EDSMAC/Simulations Course - EDC, 2007
Florida Advanced Work Zone Traffic Control – ATSSA, 2007
Designing and Operating Intersections for Safety – FICE/FDOT, 2006
Designing Intersections for Pedestrian Safety – FICE/FDOT, 2006
Bendix Air Brake Systems - 2005
Vetronix Crash Data Retrieval System, 2004
Vericom VC-3000 Data Acquisition, 2004
EDCrash/Reconstruction Course - EDC, 2004
California Superbike School, 2003
Bridgestone Snow Performance Driving School, 1999

Specialized Training Continued:

Paul Stewart Racing Omi (Objective Metrics Indices), 1997
Bondurant Performance Driving Course, 1996
Ford DIVAS (Developmental In-Vehicle Acquisition System), 1996
Applied Vehicle Dynamics, Ford/UMTRI, 1994
ADAMS Vehicle Dynamics Simulation, 1994
Ford R-Con (Research Console) Powertrain Calibration, 1993

Professional Experience:

A.B.Moore Forensic Engineering, Inc. **2012-Present**
Principal

Responsible for vehicle accident reconstruction, vehicle design analysis, and mechanical engineering consulting. Investigate accidents, determining cause and preparing results for clients. Reconstruct accidents using engineering analysis, computer-based tools, and test data, where appropriate. Inspect and analyze evidence of alleged product failure and developed engineering opinion regarding root cause.

U.S. Forensic **2008-2012**
Department Manager

Manage Accident Reconstruction department. Responsible for vehicle accident reconstruction, vehicle design analysis and mechanical engineering consulting. Investigate accidents, determining cause and preparing results for clients. Reconstruct accidents using engineering analysis, computer-based tools and test data, where appropriate. Inspect and analyze evidence of alleged product failure and developed engineering opinion regarding root cause.

HSA Engineers & Scientists, Inc. **2006 - 2008**
Project Engineer

Managed Orlando office and Accident Reconstruction department. Responsible for vehicle accident reconstruction, vehicle design analysis and mechanical engineering consulting. Investigated accidents, determining cause and preparing results for clients. Reconstructed accidents using engineering analysis, computer-based tools and test data, where appropriate. Inspected and analyzed evidence of alleged product failure and developed engineering opinion regarding root cause.

Rimkus Consulting Group, Inc. **2003 - 2006**
Consultant

Investigated and reconstructed vehicle and industrial accidents, inspected and analyzed evidence of product failure, presented engineering analysis to clients and provided expert testimony in litigation, as necessary.

Professional Experiences Continued:

Zook, Moore and Associates, Inc. **2002**
Associate Consultant

Responsible for vehicle accident reconstruction, vehicle design analysis and mechanical engineering consulting. Investigate accidents, determine cause and prepare results for clients. Reconstruct accidents using engineering analysis, computer-based tools and test data. Inspect evidence of alleged product failure and develop engineering opinion regarding root cause. Present engineering analysis to clients and provide expert testimony in litigation.

Florida Safety Council **2002 - 2006**
Rider Coach

Provided motorcycle safety instruction to students, facilitated on-track instruction and skill building for students, certified motorcycle driving ability of students by Florida Rider Training Program and Motorcycle Safety Foundation criteria, encouraged awareness of motorcycle safety issues, and complied with a Florida Department of Highway Safety & Motor Vehicles contract to provide motorcycle training.

General Dynamics Land Systems **2001**
Mechanical Engineer

Designed an air induction system for the turbine engine of a military tank application. Optimized service access to the engine using human factors analysis.

Ford Motor Company **1994-1999**
Mechanical Engineer

Identified potential tire failures under extreme loading and worked with the tire supplier to eliminate the failure mode. Produced a CAE simulation capable of evaluating vehicle rollover propensity, and utilized extensive track testing to correlate the CAE model to prototype vehicle under multiple loading conditions. Developed best-in-class vehicle dynamics in the Excursion SUV program. Responsible for test-driving prototype vehicles in evaluation of vehicle stability, rollover propensity, steering feel, confidence in handling, and effects of vehicle and component variation. Improved steering performance in the Expedition SUV program by tuning the speed-sensitive power steering system.

Patents:

Air Brake Test Manifold, Patent Number D789,818 S1: An apparatus used to evaluate the condition and performance of a commercial vehicle air brake system after collision or damage.

Publications and Public Speaking Engagements:

Pedestrian Automatic Emergency Braking (P-AEB) and Its Use in Accident Reconstruction, Collision Magazine – Volume 14, Issue 1
A How-To Guide for Downloading Toyota's Vehicle Control History, Collision Magazine – Volume 14, Issue 1
Vehicle Speed from Sound, Collision Magazine – Volume 13, Issue 2
Human Factors Aspects of Autonomous Vehicles and ADAS, Human Factors and Ergonomics Society, 2019
Going Autonomous – Kineticorp podcast, 2019
Accident Reconstruction, the Autonomous Vehicle and ADAS, SAE Instructor 2018-2020
Self-Driving Vehicles and Driver Assistance Features; Who Caused the Accident?, EDR Summit 2018
Forensic Aspects of Autonomous Vehicles, ASM International, 2018
Trial Practice, University of Florida Levin College of Law, Multiple Dates
Evaluation of Run-off Accident on the Judge Seeber Bridge, New Orleans, LA, National Academy of Forensic Engineers, 2015
Human, Vehicle, and Road, Human Factors and Ergonomics Society, 2012
Entering and Exiting Work Zones, Florida Concrete Association, 2010
Accident Reconstruction – The Critical Communications and Activity, The Risk Management Society, 2010
Minor Impact Accident Reconstruction, International Association of Special Investigation Units, 2009
Product Liability - Who Will Cover the Loss?, National Association of Subrogation Professionals, 2008
Principles of Accident Reconstruction, Southeast Claims Executives Association, 2006
Identix Biometric Systems, University of Florida, 2006
Crash Data Retrieval: Technology and Application, Exponent Consulting, 2005
Noise, Vibration and Harshness Capabilities of the Advanced Engineering Center, Ford Motor Company, 1995

Video Production:

Street Science – TV show; conducted 2 high speed crash tests, 2017
Accelerating a Cancer Cure, University of Alabama-Birmingham – Precision Driver, 2011
Just Another Day – movie; Precision Driver on Movie Chase Scene, 2010
Lights, Camera, Traction! – Stunt Driver on TV Show, 2009