Curriculum Vitae

James A. Overton, ACTAR

Profession: Mr. Overton is a consulting expert with over 19 years of experience in traffic crash investigation, reconstruction and analysis, and fleet safety compliance. Mr. Overton specializes in commercial vehicle crashes and Federal Motor Carrier Safety Regulations. He has considerable experience downloading and analyzing leading edge digital forensics data from tractor-trailer and automobile electronic data recorders (ECM, EDR, SDM, ACM, CDR, black boxes, etc.), video event data recorders (DriveCam, SmartDrive, etc.), heavy truck telematics systems (Qualcomm, PeopleNet, etc.), Garmin and other personal GPS based devices, ABS systems (Bendix, Wabco, etc.), and numerous other devices. Mr. Overton has extensive experience inspecting and documenting the condition of braking systems on tractor-trailers and heavy trucks in order to determine their existing braking capability and applying that to the specifics of a particular collision.

Testimony: Mr. Overton has been qualified as an expert in trials and has testified in depositions numerous times in his career with both the Virginia State Police and in the private sector. Mr. Overton has been qualified as an expert in trial in Florida and Virginia.

Certifications: Full Accreditation from the Accreditation Commission for Traffic Accident Reconstruction (ACTAR #1847)
Certified Crash Data Retrieval (CDR) Technician
Certified Crash Data Retrieval (CDR) Data Analyst
Certified CDL Class B Operator
FARO Focus 3D Scanner Certified

Education: *Virginia State Police Academy,* Richmond, VA
1999 - 2000
Southside Virginia Community College, Keysville, VA
1998 – Associate Degree

Experience: *Bloomberg Consulting, LLC* - Richmond, VA
2019 to present - Accident Reconstructionist

Traffic Safety Consultants /Forcon International – Richmond, Virginia
2005 - 2019

Virginia State Police
1999 to 2005 – State Police Trooper II

Professional Development:

♦ **Complying with Federal Motor Carrier Safety Regulations-** Update on changes of the Federal Motor Carrier Safety Regulations, Transportation Risk Management Services, LLC, Williamsburg, VA, 2/2006

♦ **Cummins Insite Qualification Course-** Factory training and qualification on use of Cummins Insite computer program for data retrieval from Cummins diesel engine electronic control modules. Training included detailed data on functions, parameters and capabilities of Cummins ECMs. Training resulted in certification by Cummins. Cummins Atlantic Training Center, Charlotte, NC, 10/2006

♦ **Total Station Training, Level I and II -** Certified Total Station operator for collecting data and creating forensic scene maps in crash investigation, VA State Police, 8/2004

♦ **Vetronix Crash Data Retrieval System Training-** Training covering system operational parameters, data formats, uses and limitations, 10/2005

♦ **DNA Collection Training**, VA State Police

♦ **VISTA FX3 Accident Reconstruction and Animation Software Training-** Training on the capabilities of the Vista FX3 release of the Visual Statement Software. Training included use as an advanced diagramming tool, Vista Crash Analysis, Real Motion 2D and 3D Animations of analysis data, Photo FX module which allows placement of photos from outside sources into the work product, Hawkeye Photo Rectification module which supports photo analysis applications, Simulation module and extensive data base of data needed for various types of analysis, Visual Statements, Inc., Richmond, VA, 1/2007

♦ **Advanced Commercial Vehicle Crash Investigation-** A detailed analysis of commercial motor vehicle dynamics and its application to traffic crash reconstruction. Topics included kinetic energy, ABS air brake systems, speed analysis using gear reduction ratios, low speed/high speed off-tracking, dynamic roll propensities, axle weight distribution using equilibrium and free body diagrams and liquid load analysis, Institute of Police Technology and Management, University of North Florida, Downers Grove, IL, 5/2007

♦ **Event Data Recorder (EDR) Capabilities and Validation Issues-** Topics included a brief overview of EDR capabilities in Commercial Motor Vehicles and in passenger vehicles. The importance of analysis and validation of the data recovered from the EDR's. Examples of how the recorded data from the EDR may not be connected with the crash in question. Sponsored by the Richmond Claims Association. Richmond, VA, 5/2009

♦ **Bendix Air Brakes Training School-** Featured a curriculum that included the fundamentals of compressed air; tactics for air system failure mode diagnosis and troubleshooting; and air brake system and foundation brake components, including air compressors, valves, foundation drum brake and air disc brakes, slack adjusters, brake chambers, shoes and drums. This course incorporated description, operation, and service

elements for the total range of components found within dual air brake systems. Additional topics covered include antilock braking systems (ABS) and stability

technologies such as Bendix ESP, Engine City Technician School, South Plainfield, NJ, 6/2009

- ♦ **2009 Virginia Trucking Association Annual Conference-** Featured updates on transportation laws in Virginia and across the nation; process of what should be done after a commercial vehicle crash; updates on EFCA and how to stay non-union; EDR update including capabilities and validation issues. Sponsored by the Virginia Trucking Association, Richmond, VA, 9/2009

- ♦ **2009 NAPARS Combined Annual Accident Reconstruction Conference-** Featured an emphasis on Heavy Vehicle Crash Reconstruction and a Commercial Motor Vehicle crash test. Topics included updates on ECM (Electronic Control Module) data extraction and analysis, Electronic and GPS type sources available on trucks today that can assist in a Commercial Motor Vehicle crash, Newton's Laws with special applications to trucks, forensic mapping and sources available today that may assist in mapping crash scenes, air brakes and air brake calculations. Hosted by NAPARS, Ocean City, MD, 10/2009

- ♦ **Crash Data Retrieval (CDR) Technician Certification-** Bosch approved training in exploring how to properly obtain crash data from the ACM and PCM. Topics included, but not limited to: the overall operation of the CDR System to include evaluation of the vehicle being examined for download and application of the software and hardware to that vehicle, functions of the CDR program (program navigation, sections, components, mechanics of the download), DLC and direct-to-module connection methods from start-to-finish, access considerations for the PCM, ACM and ROS, troubleshooting and solving hardware and software issues when using the Bosch CDR System, techniques on how to collect the crash data from modules without spoliation issues and how to support a collision analyst who would be using the data from a Bosch Crash Data Retrieval System report as part of their crash analysis. Collision Safety Institute, Chantilly, VA, 02/2010

- ♦ **Crash Data Retrieval (CDR) Data Analyst Certification-** Bosch approved training to understand the function of various control modules to evaluate and deploy appropriate safety systems and when possible, record crash data. Topics included, but not limited to: the history and evolution of the EDR (Event Data Recorder), understanding and identifying various anomalies that can occur with airbag control modules, general legal considerations (criminal and civil) related to CDR data admissibility, general types of data collected from GM, Ford and Chrysler vehicles accessible using the most current version of the Bosch CDR System, interpreting and using the accessible GM, Ford and Chrysler vehicle CDR reports with a complete collision reconstruction – Collision Safety Institute, Chantilly, VA, 02/2010

- ♦ **2010 Virginia Trucking Association Annual Conference-** Topics included Driver Distraction Studies, CSA 2010 and its effect on the Trucking Industry, CSA Scorecard Technology, CSA Compliance and Legislative Updates. Sponsored by the Virginia Trucking Association, Blacksburg, VA, 04/2010

- ♦ **2010 Combined Annual Conference on Trailer Underride Collision Reconstruction -** Hosted by Maryland Association of Traffic Accident Investigators. Topics included

Underride crash testing, Side Underride Analysis, Vision and Vehicle Headlight Optics, Low Light Forensic Photography, Commercial Vehicle Conspicuity Requirements,

Commercial Vehicle Rollovers, and Investigating Sudden Acceleration Incidents and Crashes, Ocean City, MD, 10/2010

♦ **Energy Methods and Damage Analysis in Traffic Crash Reconstruction -** Hosted by the Institute of Police Technology and Management topics included but not limited to, Standards, measurements and dimensional analysis, understanding and using conversion factors, vectors, damage momentum and crush analysis, crush measuring protocol and measuring techniques, interpreting damage and measuring crush, energy concepts and analysis, determining appropriate post impact drag factors, understanding EBS and delta-V, conservation of linear momentum and delta-V vectors, collision analysis using damage momentum, understanding and determining stiffness coefficients, damage (crush) analysis, pole impacts and fracture energy, using simultaneous equations to solve in-line collisions, Murfreesboro, TN, 5/2011

♦ **2012 Crash Data Retrieval User's Summit** - Hosted by Collision Publishing, LLC and Collision Safety Institute - Topics included the newest Bosch software release including updates in new available data from Ford, Chrysler, Chevrolet and Toyota modules. Presentations about admissibility of CDR data with real world cases and case studies, including a mock admissibility trial. Presentations of real world applications of CDR data also using actual cases and case studies and the newest research in CDR; hands on demonstrations of re-powering the airbag control module through the fuse box without having to remove the module from the vehicle. Other topics included how to use RCM and PCM data together, using the Monte Carlo Method with crash event data, future releases and product support for CDR and the expectation vs. reality with the Ford PCM Restraint Deployment Signal. Houston, TX, 1/2012

♦ **FARO X330 3D Laser Scanner Training**-Factory training and testing resulting in operator certification. Topics included hardware characteristics, Standard operating procedure (SOP), Laser Phase-Based Measurement details, project planning and strategies including precision verification, scanner settings for best resolution and quality, target and target-free based scanning techniques, working with Scene software version 5.3, management of large amounts of scan data using approaches such as cloud to cloud registration, available types of data visualization and presentation, creating 3D color projects, importing projects into other formats and software, creating WebShare2Go content from the scan data captured. FARO Technologies, Inc., Richmond, VA,7/2014

♦ **Digital Forensics of Heavy Vehicle Event Data Recorders** – Topics included working with latest Synercon Technologies Forensic Link Adapter (FLA) and Smart Sensor Simulators, troubleshooting of connection and power problems with heavy vehicle systems, practical vehicle network principals of Controller Area Networks (CAN), operating on J1939, J1587/J1708 and RP1210, limitations of data including when data will not be captured due to crash related power loss or other anomalies, best practices to establish a fault free environment during ECM downloads. Training included lab work with numerous systems and approaches to obtaining data, University of Tulsa, Tulsa, OK, 2/2017

- **2017 Event Data Recorder (EDR) Summit** -Topics included, but not limited to, the newest Bosch software releases including updates in new available data from Ford, Chrysler, Chevrolet, Toyota and Honda modules. Focus on EDR research, collection and analysis for vehicle crash investigation. Presentations of real world applications of EDR data using actual cases and the newest research in EDR. Presentations on EDR data in light trucks, passenger cars, SUVs, heavy commercial vehicles and vehicle infotainment systems. Other topics included Subaru and Mitsubishi data, software updates and real world applications of Hyundai and Kia data, an overview of asynchronous data concepts in EDR data, source of recorded pre-crash data and forensic methods for dealing with damaged ECM/ECU components. Collision Safety Institute, Houston, TX, 3/2017

- **Investigation of Motorcycle Crashes** – Topics included, but not limited to, analyzing and interpreting the motorcycle crash scene, determining acceleration and deceleration characteristics or the motorcycle, analyzing and interpreting modes of instability and handling characteristics in motorcycles, interpreting the operator factor, reviewing motorcycle tires, helmets and other equipment and using a practical application of formulas. Institute of Police Technology and Management, University of North Florida, St. Petersburg, FL, 7/2017

- **TRIMBLE SX-10 Robotic Total Station/Scanner Factory Training-**Training included technical data and specifications of the equipment, Trimble Access software, field operation of the SX-10 to collect combined survey data, 3D high definition scans and panorama photographs, photogrammetry capabilities of combined data collected by the unit, exporting data to TBC software and beyond to other file formats for project creation. Trimble Factory Trainers, Richmond, VA, 8/2017

- **Accessing and Interpreting Heavy Vehicle Event Data Recorders** - Update on Multiplexed vehicle electronics systems, vehicle data networks, HVEDR devices, Active Safety systems, ABS/Stability Control systems, Collision Warning/Active Braking systems, Lane Departure systems and interpreting the data collected from heavy vehicles. Vehicles covered included Detroit Diesel, Mercedes Benz, Cummins, Caterpillar, Mack, Volvo, International and PACCAR. Updated information provided on downloading, interpreting and validating data obtained from HVEDR systems, Society of Automotive Engineers (SAE), Ashburn, VA, 7/2018

- **Virtual Crash Simulation Software** – Hands on traffic collision analyses training utilizing VCRASH simulation software to; draw scale diagrams, manipulate 3D models and terrain environments, and create high definition animations and simulations. Atlanta, GA (October 2019)

Teaching Activities:

- Commercial Vehicle / Fleet Safety. Lectures to management personnel and complete safety audit review. *The Contractor Yard*, VA, WV, MD, TN, NC, SC, FL, 2006, 2007.
- Commercial Vehicle / Fleet Safety. Lectures to management personnel, drivers, and complete safety audit review. *Strober, Inc.*, VA, MD, DE, 2007.
- "Virginia Courts and Expert Witness Testimony: Overview of an example case involving the Conservation of Momentum." *Bowman and Brooke, LLP*, Richmond, VA, 7/2009.
- "Basic Accident Reconstruction and why an Accident Reconstructionist Should be Considered in your Case." *Blue Goose Association*, Richmond, VA, 11/2009.

Synopsis: Mr. Overton has extensive knowledge and experience in motor vehicle accident investigations and reconstruction. He has personally investigated over 1,000 traffic collisions and has been involved in the documentation, analysis, and reconstruction of hundreds of serious motor vehicle collisions involving commercial vehicles, passenger vehicles, pedestrians, motorcycles, bicycles, etc. His experience includes time/speed/distance analysis, seat belt use, headlamp filament analysis, and traffic signal sequencing. His expertise includes accident reconstruction, evidence documentation, collision scene photography, 3-dimensional animation, EDR downloads, collision scene mapping, and computer diagramming.