

Specialized Professional Competence

- Crash Analysis and Reconstruction - vehicle and scene inspection and crash analysis including Nikon Total Station Laser Survey; FARO 3D scanning; speed analysis; rollover analysis; computer-aided crash analysis including EDCrash, EDSmac and HVE-Smac; exemplar vehicle analysis; vehicle crashworthiness analysis; Bosch Crash Data Retrieval (CDR) technician and analyst for passenger cars and light trucks; Event Data Recorder (EDR) data technician and analyst for heavy trucks; DOT Level 1 inspections for heavy trucks and FAA Part 107 commercial drone certification for aerial scene and vehicle documentation.
- Vehicle Dynamics Analysis - application of physics, background knowledge and experience to the analysis and understanding of vehicle dynamics and the effect of driver, vehicle and environment on vehicle performance.
- Vehicle Testing and Instrumentation - planning, implementation, and analysis of testing programs including vehicle load condition, vehicle preparation, tire selection, test procedure familiarity, test-driving, data acquisition system operation, and data analysis.
- Expert Testimony - providing case analysis and court testimony since 2001.

Professional Qualifications

- President, Liebke Technical Consulting, LLC - 10/2015 - present
- Senior Consultant, Carr Engineering, Inc. - 1/2008 – 10/2015
Graduate Engineer, Carr Engineering, Inc. - 7/2000 - 1/2008
Lead engineer responsible for crash reconstruction and vehicle testing. Activities include scene inspections, vehicle inspections, crash analysis, vehicle dynamics analysis, vehicle dynamics testing, test procedures, test planning and logistics, vehicle instrumentation, brake system analysis, tire analysis, data analysis and expert testimony.
- Driver Engineer, The Goodyear Tire and Rubber Company - 1997 - 2000
Driver Engineer responsible for tire evaluations including noise, ride, steering, handling, maximum dry handling, maximum wet handling, objective noise, and off-road performance of passenger car and light truck tires. Accounts included Goodyear and Kelly Springfield renewal market tires, Dodge Truck OEM tires, Plymouth Prowler OEM tires and Goodyear police tires.
- Vehicle Development Engineer, Ford Motor Company - 1992 - 1997
Vehicle Development Engineer responsible for tire development, brake development and vehicle dynamics development for passenger car programs. Activities included target setting, supplier coordination, system tuning, vehicle performance evaluation, and vehicle sign-off evaluation.
- Argonne National Laboratory, Center for Transportation Research - 1991 - 1992
U.S. Department of Energy representative for the execution of numerous student engineering research competitions including; Natural Gas Vehicle Challenge, Formula SAE, SAE Mini-Baja, SAE Micro-Baja, NESEA Solar-Electric Car Race, and Core Team membership on Ford Team Concept for the Hybrid Electric Challenge.

Education

- Bachelor of Science, Mechanical Engineering, The University of Texas at Arlington, 1991

Publications

1. "The Effectiveness of the National Advanced Driving Simulator (NADS) in Evaluating the Effect of Tire Tread Belt Detachments" - SAE 2013-01-0467
2. "Control Loss Following a Simulated Tire Tread Belt Detachment" - 4th International Conference on Applied Human Factors and Ergonomics (AHFE) 07 - 2012
3. "An Analysis of Driver Reactions to Tire Failures Simulated with the National Advanced Driving Simulator (NADS)" - 6th International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design
4. "Evaluation of Suspension Characteristics in Response to Cyclical Vertical Accelerations" - SAE 2010-01-0106
5. "Motor Vehicle Driver Characteristics - Crash Avoidance Behavior" - SAE 2007-01-0449
6. "An Analysis of Yaw Inducing Drag Forces Imparted During Tire Tread Belt Detachments" - SAE 2007-01-0836
7. "Analysis of Axle Shaft Failures for Use in Crash Reconstruction" - SAE 2005-01-1193

Additional Training and Experience

1. Advanced Applications of Heavy Vehicle EDR Data - SAE #C1901 - 6/2023
2. FARO Scanner Training – 2/2018
3. FAA Part 107 Commercial Drone Certification – 12/2017
4. Accessing and Interpreting Heavy Vehicle Event Data Recorders Seminar, SAE #C1022 – 10/2017
5. Bosch Crash Data Retrieval Technician and Data Analyst Courses - 8/2009
6. Northwestern University Center for Public Safety Traffic Accident Reconstruction Course - 5/2006
7. Engineering Dynamics Corporation Reconstruction Training Course - 1/2002
8. Bondurant School of High Performance Driving - 12/1999, 10/1998 & 9/1997
9. "Fundamentals of Vehicle Dynamics" - Thomas D. Gillespie - 1993
10. Formula SAE Team Captain, 1990 -1991
11. Racing Experience - Open-Track Events, High Performance Driving Instruction, and N.A.S.A. Road Racing
12. Life-long automotive enthusiast including maintenance, repair, modification and restoration of numerous vehicles of various types.