1205 Poppy Ct Montebello, CA 90640 (626) 476-7245 FLee@collision-recon.com

Felix Lee, MS PE

Felix Lee is an accident reconstruction expert and Principal Engineer at Collision Reconstruction Consulting (CRC). Mr. Lee holds a Master of Science (MS) degree in Mechanical Engineering from the University of California, Los Angeles (UCLA) and is a licensed Professional Engineer (PE) in California. Mr. Lee is also a certified Crash Data Retrieval (CDR) Technician and Analyst and a drone pilot through the Federal Aviation Administration.

Mr. Lee specializes in motor vehicle accident reconstruction. As a forensic mechanical engineer, Mr. Lee investigates and reconstructs collisions and incidents involving passenger cars, commercial trucks, vans, buses, motorcycles, bicycles, and pedestrians. He has investigated over 1,000 traffic accidents and conducted engineering assessments of impact severity, vehicle speed and dynamics, collision sequence, occupant movement, damage matching, driver avoidance potential, event data recorders (EDRs), seat belt usage, airbag deployment, and rollover analysis. Mr. Lee conducts vehicle inspections of components including airbags, seatbelt, seats, and tires to evaluate the potential origin and cause of failure. He also examines collisions sites and documents evidence using total stations, drones, and laser scanners.

Mr. Lee is proficient in modeling vehicle motion during collisions using 3-dimensional computer simulation programs including PC-Crash and HVE. In addition, he is qualified in the retrieval and interpretation of electronic data from passenger vehicle and heavy truck EDRs (i.e. "black box"). Mr. Lee has published peer-reviewed technical papers and served as a peer reviewer for the Society of Automotive Engineers (SAE). He co-authored a series of publications quantifying the accuracy and recording behavior of Toyota airbag control modules. Recently, Mr. Lee has provided technical consulting for the barrier certification of a novel hostile vehicle mitigation barrier system.

Education

MS, Mechanical Engineering, University of California, Los Angeles (UCLA), 2012
BS, Mechanical Engineering, University of California, Los Angeles (UCLA), 2010

Employment History

Principal Engineer, Collision Reconstruction Consulting, 2019-Present
Director of Accident Reconstruction, National Biomechanics Institute, 2018-2019
Mechanical Engineer, Jensen Hughes (formerly CASE Forensics), 2017-2018
Project Engineer, MEA Forensic Engineers & Scientists, 2012-2017
Teaching Assistant, Graduate Student Researcher, UCLA Department of Mechanical Engineering, 2010-2012
Researcher, Center of Remote Sensing of Ice Sheets, University of Kansas, 2009
Intern, Southern California Edison, 2008

Certifications

Licensed Professional Engineer, California #37562
Unmanned Aircraft Systems (UAS) Remote Pilot, Federal Aviation Administration
Certified Operator, English XL Variable Incidence Tribometer
Bosch Crash Data Retrieval (CDR) System Technician & Data Analyst

Continuing Education

SAE Accident Reconstruction Digital Summit, Society of Automotive Engineers
"Berla Vehicle Forensics Essentials Series", Berla Corporation

"Forensic Testing and Analysis of Seat Belts", California Association of Accident Reconstruction Specialists (CAARS)

"Utilizing Video Evidence in Traffic Investigations", California Association of Accident Reconstruction Specialists (CAARS)

"The Math and Physics Behind the Equations Used in Accident Reconstruction: Where Do They Come From, Their Verification Using Computer Simulations", California Association of Accident Reconstruction Specialists (CAARS)

"Introduction to Pedestrian/Bicycle vs. Auto Collisions", California Association of Accident Reconstruction Specialists (CAARS)

"Approach and Implementation of an sUAS (Drone) Program for Accident Investigation", California Association of Accident Reconstruction Specialists (CAARS)

Staged Motorcycle Crash Testing, California Association of Accident Reconstruction Specialists (CAARS)

Society of Automobile Engineers (SAE) World Congress

HVE Forum, Engineering Dynamics Corporation

EDC Simulations Training Course (HVE), Engineering Dynamics Corporation

PC-Crash Online Workshop, MEA Forensic

PC-Crash Essentials Online Workshop, MEA Forensic

Rail Safety Training Course, Los Angeles County Metropolitan Transportation Authority (MTA)

Side Underride Collisions with Big Rigs, California Association of Accident Reconstruction Specialists (CAARS)

Energy Methods and Damage Analysis in Traffic Crash Reconstruction, Institute of Police Technology and Management (IPTM)

ARC-CSI Crash Conference, Collision Publishing Inc.

Accident Reconstruction Summit, MEA Forensic

Staged Rollover Crash Testing, MEA Forensic

Crash Data Retrieval (CDR) User's Summit, Collision Publishing Inc.

Crash Data Retrieval (CDR) System Operators Course, Crash Data Specialists

Crash Data Retrieval (CDR) Analysis and Applications Course, Crash Data Specialists

OSHA 10 Hour Construction Program

Peer-Reviewed Publications

Lee, F, McCleery, CH, Ngo, C, Limousis-Gayda, M, Hashish, R, "Probability of Frontal Airbag Deployment in Bumper-Bumper and Underride Collisions (SAE Technical Paper 2019-01-0620)", Warrendale, PA: Society of Automotive Engineers, 2019.

Lee F, Xing P, Yang M, Lee J, Wilkinson C, Siegmund GP, "Behavior of Toyota Airbag Control Modules Exposed to Low and Mid-Severity Collision Pulses (SAE Technical Paper 2017-01-1438)," Warrendale, PA: Society of Automotive Engineers, 2017.

Xing P, Lee F, Flynn T, Wilkinson C, Siegmund G, "Comparison of the Accuracy and Sensitivity of Generation 1, 2, and 3 Toyota Event Data Recorders in Low-Speed Collisions (SAE Technical Paper 2016-01-1494)," Warrendale, PA: Society of Automotive Engineers: International Journal of Transportation Safety, 2016.

Hunter R, Fix R, Lee F, King D, "Using Force-Displacement Data to Predict the EBS of Car into Barrier Impacts (SAE Technical Paper 2016-01-1483)," Warrendale, PA: Society of Automotive Engineers, 2016.

McKinley I, Lee F, Pilon L, "A Novel Thermodynamic Energy Conversion Cycle," Applied Energy, vol. 126, pp. 78-89, 2014.

Lee F, Jo H, Lynch C, Pilon L, "Pyroelectric Energy Conversion Using PLZT Ceramics and the Ferroelectric–Ergodic Relaxor Phase Transition," Smart Materials and Structures, vol.22, No.2, 025038, 2013.

Chin T, Lee F, McKinley I, Goljahi S, Lynch C, Pilon L, "Direct Thermal to Electrical Energy Conversion Using 9.5/65/35 PLZT Ceramics in the Ergodic Relaxor Phase," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, vol. 59, no. 11, pp. 2373-2385, 2012.

Lee F, Goljahi S, McKinley I, Lynch C, Pilon L, "Pyroelectric Waste Heat Energy Harvesting Using Relaxor Ferroelectric 8/65/35 PLZT and the Olsen Cycle," Smart Materials and Structures, vol. 21, no.2, 025021, 2012.

Lee F, Navid A, Pilon L, "Pyroelectric Waste Heat Energy Harvesting Using Heat Conduction," Applied Thermal Engineering, vol. 37, May 2012, pp. 30-37, 2012.

Chin T, Lee F, McKinley I, Goljahi S, Lynch C, Pilon L, "Pyroelectric Energy Harvesting of Relaxor Ferroelectric 9.5/65/35 PLZT Using the Olsen Cycle (HT 2012-58488)," ASME Summer Heat Transfer Conference, SHTC 2012, Rio Grande, Puerto Rico, USA, July 2012.

Lee F, Goljahi S, McKinley I, Lynch C, Pilon L, "Pyroelectric Energy Conversion Using Relaxor Ferroelectric 8/65/35 PLZT and the Olsen Cycle (MNHMT 2012-75153)," ASME International Conference on Micro/Nanoscale Heat Transfer, MNHT 2012, Atlanta, GA, January 2012.

Lee F, Navid A, Pilon L, "Pyroelectric Energy Harvesting of Copolymer P(VDF-TrFE) Heated and Cooled by Heat Conduction (MNHMT 2012-75155)," ASME International Conference on Micro/Nanoscale Heat Transfer, MNHMT 2012, Atlanta, GA, January 2012 (2nd place in the Best Paper Award Competition).

Technical Presentations

"Modern Technologies in Accident Reconstruction" (1CEU), The Hartford Insurance, January 2023.

"Modern Technologies in Accident Reconstruction" (1CEU), Bowman and Brooke, October 2022.

"Accident Reconstruction - How It Can Help You Determine Liability and Damages" (1CEU), Fresno Paralegal Association, September 2020.

"Probability of Frontal Airbag Deployment in Bumper-Bumper and Underride Collisions", 2019 Society of Automotive Engineers World Congress, Detroit, MI, April 9, 2019.

"Products, Appliances, Vehicles, Systems" (1CEU). Combined Claims Conference, Anaheim, CA, March 2018.

"Behavior of Toyota Airbag Control Modules Exposed to Low and Mid-Severity Collision Pulses, 2017 Society of Automotive Engineers World Congress, Detroit, MI, April 2017.

Professional Affiliations

Society of Automotive Engineers International (SAE)

California Association of Accident Reconstruction Specialists (CAARS)

National Association of Traffic Accident Reconstructionists and Investigators (NATARI)
Southwestern Association of Technical Accident Investigations (SATAI)

Awards

UCLA Outstanding Master of Science in Mechanical Engineering Award (2012)

2nd place in the Best Paper Award Competition, ASME 2012 3rd Micro/Nanoscale Heat & Mass Transfer International Conference, Atlanta March 3-6, 2012 (out of 140 papers)

Eagle Scout

8/4/23