



**Nishan Perera, B.A.Sc., P.Eng.**

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**EXPERT SUMMARY**

Nishan Perera is a Senior Associate with the Collision Reconstruction team at 30 Forensic Engineering and a registered professional engineer in Ontario, holding a Bachelor of Applied Science degree in Mechanical Engineering with a focus on Automotive Engineering. He is also a Certified Forensic Video Technician (CFVT) through the Law Enforcement & Emergency Services Video Association (LEVA) and is specialized in the forensic video analysis of CCTV, cell phone, and dashboard camera footage. In addition, Nishan’s aptitude extends into the application of photogrammetric techniques to extract measurements and locations of objects from photographs. He has been involved in conducting vehicle examinations and extracting ‘Black Box’ Data, as well as the investigation of over 400 collisions involving heavy trucks, automobiles, motorcycles, and pedestrians. Prior to his career in forensic engineering, Nishan specialized in tool and product design in the manufacturing industry and has investigated aerial lift failures and product liability issues relating to aerial lifts across the United States.

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**SPECIALIZED PROFESSIONAL COMPETENCIES**

- Collision Reconstruction of commercial and passenger vehicles, motorcycles & pedestrian impacts
- Vehicle mechanical fitness assessments
- Event Data Recorder (black box) data retrieval and analysis
- Collision simulation and animation
- Photogrammetry, Camera Tracking, and Match Moving
- Forensic Video Analysis of dash camera, cell phone, and security camera footage
- Collision site assessments
- Visibility assessments
- Product warning label and liability assessment
- Product development and Computer Aided Design

**ACADEMIC BACKGROUND**

Bachelor of Science, Honours, Mechanical /Automotive Engineering, University of Windsor, Windsor, Ontario, 2008



#### ADDITIONAL COURSES AND TRAINING

- LEVA Level 4: Advanced Forensic Video Analysis and the Law, Law Enforcement & Emergency Services Video Association (LEVA), January 16 – 20, 2023, Online
- LEVA Level 3: Principles of Forensic Video/Image Compare & Contrast, Law Enforcement & Emergency Services Video Association (LEVA), August 15 – 19, 2022, Online
- LEVA Level 2: Digital Multimedia Evidence Processing, Law Enforcement & Emergency Services Video Association (LEVA), May 2 – 6, 2022, Toronto Police Headquarters
- LEVA Level 1: Forensic Video Analysis and the Law, Law Enforcement & Emergency Services Video Association (LEVA), January 17 – 21, 2022, Toronto Police College
- iNPUT-ACE Certified Metrologist, November 18, 2021
- Adobe Photoshop for Forensic Video Analysis, Law Enforcement & Emergency Services Video Association (LEVA), August 2021
- 2021 Video Evidence Training Symposium Certificate
- iNPUT-ACE Certified Examiner, October 23, 2020
- iNPUT-ACE Certified Operator, August 13, 2020
- Tesla & Toyota Techstream Course, Ontario Provincial Police Headquarters, Orillia, Ontario, December 2019
- Racelogic Webinar Training Session, VBOX Automotive Data Logging, June 2019
- 24-hour Crash Data Retrieval (CDR) Analysis and Applications Course for Engineers, Crash Data Specialists LLC, Toronto, February 2019
- Crash Test Team Member, CATAIR AGM and Conference, Ontario Police College, Aylmer, Ontario, August 2018
- PC-Crash 11.1 Two Day Workshop, MEA, Toronto, June 2018
- CATAIR Crash Data Retrieval (CDR) Operator's Course, Whitby, Ontario, 2018
- Passenger and Commercial Vehicle Tires Seminar, Bridgestone Americas Tire Operations, Toronto, June 2017
- Ontario Police College Crash Testing, Aylmer, April 2017
- Advanced Traffic Crash Investigation, IPTM
- Traffic Crash/Traffic Homicide Investigation, IPTM
- Crash Investigation I, Northwestern University
- Safety, Compliance and Liability Conference, AEM
- Scissor Lift Technical Service Training, SkyJack Inc.
- IPAF Aerial Work Platform Training, Skyjack Inc.
- ILR Advanced Driver Training, ILR Car Control School



## PROFESSIONAL EXPERIENCE

### **30 Forensic Engineering**

Senior Associate—Collision Reconstruction

March 2022 – Present, Toronto, ON

- Conduct technical investigations involving commercial, passenger, and recreational vehicle collision reconstruction; defects in vehicle components and mechanical equipment; failures involving engineering factors; and human factors related vehicle collisions
- Conduct forensic video analysis for the purposes of clarifying video, determining vehicle speeds, or determining object locations through single view reverse projection metrology.

Associate—Collision Reconstruction

October 2016 – March 2022

### **Skyjack Inc.**

Senior Product Safety Engineer

March 2015 – October 2016

- Investigated root cause failure of oscillating axle cylinders and mitigated risk of future litigation
- Investigated and resolved root cause failure of keeper pins
- Conducted multiple injury related incident investigations & machine inspections
- Developed warnings, labels, and technical document design methodology
- Assisted in peer review for ANSI A92.20 & CSA B354.7
- Authored manufacturer approvals, Safety Bulletins & regularly fielded safety related customer inquiries
- Participated in mock deposition

### **Hitachi Construction Truck Mfg.**

Manufacturing Analyst—Tooling Design

November 2011 – March 2015

- Designed and validated stands, lifting devices and custom tooling
- Conducted stress calculations for device and load rated safety compliance
- Investigated and resolved tooling damage occurrences relating to work cell processes
- Investigated and resolved bolt failures on robot tooling
- Developed complex models, layouts, and tool use procedures

Designer

October 2008 – November 2011

- Increased manufacturability and reduced cost of truck bed wear liners
- Evaluated suspension kinematics for interference with prototype mud guards



- Developed mechanical prototype emergency ladder for mining trucks
- Authored noise and fuel study testing procedures
- Designed and developed shipping configurations and conducted packaging studies for rail transportation

## PROFESSIONAL SOCIETIES AND ASSOCIATIONS

- Law Enforcement and Emergency Services Video Association (LEVA), Associate Member and Certified Forensic Video Technician
- National Association of Professional Accident Reconstruction Specialists (NAPARS), Member
- Society of Automotive Engineers (SAE), Member
- Licensed Professional Engineer in Ontario (PEO), Member

## PUBLICATIONS AND SPEAKING ENGAGEMENTS

### Speaking Engagements

- "From Pixels to Perception: How Video Evidence Can Shape Reality," 30 Forensic Engineering Forensic Investigation Forum Series, Vancouver, BC; Calgary, AB; Toronto, ON; Ottawa, ON, May – June 2023
- "Collision Reconstruction: Forensic Video Analysis," Guest Lecture, University of Toronto, Faculty of Applied Science and Engineering, Toronto, ON, March 2022
- "30 Forensics Engineering Webinar: Perception versus Reality – The Use and Limitations of Video Evidence," Gore Mutual Insurance, ON, February 2022
- "30 Forensic Engineering Webinar: The Digital Witness – The Use and Limitations of Photo and Video Evidence," Toronto, ON, July 2021
- "30 Forensic Engineering Webinar: Collision Reconstruction Assessments of Suspected Fraudulent Claims," Toronto, ON, May 2020
- "30 Forensic Engineering Webinar: Suspected Fraudulent Claims," TD Insurance – Special Investigation Unit, Toronto, ON, February 2020
- "Engaging with Forensic Experts," Dutton Brock LLC, Toronto ON, January 2020

## COURT APPEARANCES

- Qualified as an Expert Witness in Collision Reconstruction for the License Appeals Tribunal (LAT) Ontario, February 2023
- Qualified as an Expert Witness in Collision Reconstruction for the Superior Court of Justice Oshawa, May 2023