



Matthew Ahrens

BASc PEng

Project Engineer

contact

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📍 Toronto

expertise

Collision Reconstruction

Video Analysis

Matthew Ahrens is a Project Engineer in the Collision Reconstruction group of MEA Forensic's Toronto office. He investigates collisions involving cars, trucks, motorcycles, golf carts, and other motorized and recreational vehicles. He conducts scene and vehicle exams, 3D scans, as well as analysis and modelling. Matthew holds a Transport Canada drone license, which allows him to efficiently survey accident scenes and collect 3D measurements from the air, providing valuable insights into the geography and layout of collision sites.

Matthew holds a Bachelor of Applied Science in Engineering Physics from Queens University and enjoys applying his engineering knowledge to practical problems at MEA Forensic. "We use the facts, the evidence, physics and maths to determine what really happened on the day of the accident, or at least narrow down the range of possibilities."

In addition to using traditional engineering and physics principles to unravel crash evidence, Matthew obtains and interprets new sources of information, like the black box data saved by modern cars. He is also involved in the analysis of accident video footage. "Images captured by dashcams, front and back facing cameras on vehicles, security cameras, and even the phone of a passerby can really help complete the accident picture we draw from our analysis of the physical evidence and black box data", he explains.

Prior to joining MEA, Matthew worked in automotive research and development, where he got a glimpse of equipment that will be found in cars in the next decades. "I am looking forward to cars being even more computerized, and recording more data which I can use to answer complicated questions about crashes. I'm excited to explore new ways in which we can use evidence, old and new, to get these answers quickly and efficiently."

education

Bachelor of Applied Science, Engineering Physics, Queen's University, Kingston, ON, 2022.



professional status

Professional Engineer (P.Eng.), Professional Engineers of Ontario, 2026. License No. 100581395.

Certified Forensic Video Technician, Law Enforcement & Emergency Services Video Association, 2025.

Pilot – Small RPAS, VLOS, Advanced Operations, Transport Canada, 2023.

professional experience

MEA FORENSIC ENGINEERS & SCIENTISTS

Engineering Associate, 2022 to present

Investigates collisions involving cars, trucks, motorcycles, golf carts, and other motorized and recreational vehicles. Conducts scene and vehicle exams, 3D scans, as well as analysis and modelling.

ONTARIO POWER GENERATION, PICKERING, ON

Engineering Co-op, 2020 to 2021

Ensured material availability, identified alternatives and prevented unnecessary purchases during the Darlington Refurb project.

MAGNA INTERNATIONAL, NEWMARKET, ON

Project Engineering Co-op, 2019

Worked with senior engineers and other co-op students on various research and development projects.

MAGNA CLOSURES, NEWMARKET, ON

Test Technician, 2018

Performed travel and effort testing on automotive parts in various environmental conditions.

research activities

Assisted in vehicle ABS testing to evaluate the deceleration capabilities of modern vehicles on road surfaces with varying degrees of wetness.

Assisted in testing various dashcams to evaluate the influence of dashcam parameters on the accuracy of calculated speeds and accelerations during hard braking events using SynthEyes software.

Completed validation of SynthEyes software to evaluate vehicle speed and position from dashcam videos for environments with varying amounts of features. Paper submitted for peer review.

awards

Queen's Chancellor's Scholarship, 2017.

publications

Vehicle Deceleration Levels during Wet-to-Dry Transitions on an Asphalt Surface with a High Proportion of Aggregate

The Effect of Tracker and Control Point Distributions on Vehicle Position and Speed Estimates from Dash Camera Video

The Accuracy of Vehicle Speeds, Decelerations, and Brake Onset Times Calculated from Onboard Dash Cameras

training and professional development

December 15-19, 2025 – LEVA Level 2: Digital Multimedia Evidence Processing, Kansas City, MO.

November 18-19, 2025 – Electric Vehicle Safety and Vehicle Mechanical Inspection Training, Centennial College, Toronto, ON.

June 17, 2025 – PC-Crash 15.1 New Features, Online.

May 5-9, 2025 – LEVA Level 1: Forensic Video Analysis and the Law, Edmonton, AB.

April 7-9, 2025 – Applied Vehicle Dynamics, Society of Automotive Engineers (SAE) International, Thermal, CA.

January 22, 2025 – PC-Crash Best Practices, Online.

October 22-25, 2024 – Accessing and Interpreting Heavy Vehicle Event Data Recorders, SAE International, Fontana, CA.

February 12-16, 2024 – Video Analysis in Collision Reconstruction, LEVA International, Inc., Mark Crouch & Stephen Cash, Online.

September 26, 2023 – RPAS Ground School | Advanced, Coastal Drone Co., Online.

June 27-28, 2023 – Zero to Hero in CloudCompare Training, ai2-3D Forensics, Eugene Liscio, Online.

May 25, 2023 – Crash Data Retrieval Technician Update Course, Kent E. Boots & Associates, MEA.

November 28-30, 2022 – IDRR 3-Day Course, Jeff Muttart, Online.

November 14-17, 2022 – Lightpoint Learning Motorcycle Collision Reconstruction Course, Lou Peck, Online.

October 31-November 4, 2022 – EDC Reconstruction Course, EDC LLC, Online.

July 7-8, 2022 – Bosch Crash Data Retrieval (CDR) Tool Operator/Technician Certification, Oxnard, CA.