

aperture

TED YODER, M.Ed, BSCE, ACTAR

Forensic Expert - Accident Reconstruction

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EDUCATION

M.Ed	Master of Educational Leadership Northern Arizona University, 2008
BSCE	Bachelor of Science in Civil Engineering University of Iowa, 1995

PROFESSIONAL CERTIFICATIONS

ACCREDITATIONS
The Accreditation Commission for Traffic Accident Reconstruction (ACTAR), 2016
Traffic Accident Reconstructionist #2830
Accreditation Renewed 2020, 2025

CERTIFICATIONS
Certified by IPTM and Collision Safety Institute as a Crash Data Retrieval (CDR) System Operator
Certified by IPTM as a Crash Data Retrieval (CDR) Data Analyst
FAA Part 107 Certified UAS Remote Pilot – Certificate No. 14058582025022400677
Kustom Doppler Traffic Radar Operation, 2004
SFST/HGN Training, 2008
Intoxilyzer 8000 Recertification, 2012
Traffic Lidar Operator, 2014
SFST/HGN Technician Certification, 2015
Advanced Roadside Impaired Driving Enforcement (ARIDE) Course, 2016
SFST/HGN Technician Skills Refresher Course, 2017
Intoxilyzer 9000 Operator, 2021
Abbott SoToxa Mobile Test System Operator
Recon - 3D, 2026

MEMBERSHIPS & SUBSCRIPTIONS

Southwestern Association of Technical Accident Investigators Member, 2011 - Present
Board Member, Southwestern Association of Technical Accident Investigators, 2019 - 2022
Vice President, Southwestern Association of Technical Accident Investigators, 2022 - 2024
President, Southwestern Association of Technical Accident Investigators, 2024 - Present
Alternate Director, ACTAR Governing Board, 2019 - 2023
Director, ACTAR Governing Board, 2023 – Present
WREX 2030 Planning Committee, 2026 – Present
Pix4D Mapper Software
Interactive Driver Response Research Software
Cadzone Crash Zone Diagramming Software
Easy Street Draw Crash Diagramming Software

NOT FOR EXPERT DESIGNATION

WORK EXPERIENCE

Aperture, LLC, 2026/Present
3820 W Happy Valley Rd
Suite 141 PMB 621
Glendale, AZ 85310

Professional Police Profile

Glendale Police Department, 2003–2026
Glendale, AZ
Sworn Officer

Glendale Police Department Vehicular Crimes Squad, 2008–2026
Glendale, AZ
Vehicular Crimes Detective, Collision Investigation and Reconstruction

Glendale Police Department UAS Pilot, 2021–2026
Glendale, AZ
UAS Pilot, Vehicular Crimes Squad

Professional Experience – Collision Investigation
Investigator in over 450 serious injury collisions, fatal traffic collisions, and homicide investigations.
Testified as an expert in the Maricopa County Superior Court.

HONORS AND AWARDS

Glendale Police Department Meritorious Unit Award Winner, 2020

Glendale Police Department Specialty Officer of the Year Award Winner, 2023

Glendale Police Department Certificate of Recognition, 2025

SPECIALIZED TRAINING/SEMINARS ATTENDED

Cloud Compare Certificate of Completion, 2026
Forensic Training Group (8 hrs)

Heavy Vehicle Event Data Recorder Use in Traffic Crash Reconstruction, 2026
Forensic Training Group (32 hrs)

Recon – 3D Training Course, 2026
R3D – Eugene Liscio (5 hrs)

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2026
Calculating Speed from Audio, Integrating Digital Evidence and Accident Reconstruction, and Determining Speed from Delta-V in EDR Data.

Beyond the Last Precrash Speed Value (EDR), 2025
NAPARS Webinar (2 hrs)

Event Data Recorder Use in Traffic Crash Reconstruction – Level II, 2025
Institute of Police Technology and Management (40 hrs)

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2025
Human Factors in Accident Reconstruction, Vehicle Fire Causes and Arson, Occupant Biomechanics in Motor Vehicle Collisions, and Takata Airbag Update.

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Human Factors for Traffic Reconstruction (24 hrs), 2025
Driver Research Institute

Motorcycle Traffic Crash Reconstruction (32 hrs), 2025
Northwestern University Center for Public Safety

Head and Brain Injuries in Auto v. Cyclist Accidents, 2025
NAPARS Webinar (2 hrs)

Using Drug Recognition Experts in Fatal and Serious Injury Crash Investigations, 2025
NAPARS Webinar (2 hrs)

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2025
Aerial Drones and Photogrammetry, Trailers and Trailer Dynamics, Lateral Displacement From Pre-Crash Data, Monte Carlo Applications, Updates to Hyundai/Kia download Software, and Forensic Visualization.

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2024
Crash Data Retrieval and Toyota Techstream, Handheld LIDAR Scanning and Crush Analysis, Rotational Mechanics, UBER Self Driving Fatal Crash Investigation, and Commercial Vehicle Electronic Systems

Introduction to Traffic Crash Dynamics (40 hrs), 2024
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (17 hrs), 2024
Crash Tests, 3D Technologies, Motorcycle Reconstruction Topics, Digital Forensics, Biomechanics of Motorcycle Helmets, and Crash Test Data Review

Axon Investigate Software – Operator Certification, 2023

Federal Aviation Administration Part 107 Small UAS Recurrent License Renewal, 2023

Human Factors in Traffic Crash Reconstruction (40 hrs), 2023
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (18 hrs), 2023
Crash Tests, EDR Updates, Vehicle System Forensics, Forensic Photography, Application of iNPUT-ACE, and Crash Test Data Review

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2022
Crash Tests, Human Factors, E-Scooter Crash Investigation, Laser Scanning and Photogrammetry, Crash Test Review

Pix4DMapper Essentials online course,2022
Pix4DMapper In-Depth online course
Pix4DMapper Essentials certification exam

Energy Methods and Damage Analysis in Traffic Crash Reconstruction (40 hrs),2021
Institute of Police Technology and Management

Federal Aviation Administration Unmanned Aerial Vehicle Part 107 License, 2021
Glendale Airport Examination Center

Advanced Crime Scene Photography (32 hrs), 2020
Forza Forensics

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Traffic Crash Reconstruction I (40 hrs), 2020
Northwestern University Center for Public Safety

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2020
Toyota Safety Sense and Vehicle Control History / Performance Characteristics Of Electric Scooters used by Bird, Lime, Jump, Lyft, and others / Utilizing Video Evidence in Traffic Investigations

Occupant Kinematics for the Traffic Crash Reconstructionist (40 hrs), 2019
Institute of Police Technology and Management

Needle in a Haystack: The Unsolvable Hit-and-Run (2 hrs), 2019
Institute of Police Technology and Management

UAVs in Crash Reconstruction (2 hrs), 2019
Institute of Police Technology and Management

Human Factors for Traffic Crash Reconstruction (40hrs), 2019
Crash Safety Solutions

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2019
Human Factors / Monte Carlo Analysis

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2019
Planar Collision Mechanics / EDR and Determining Speed from Video
Heavy Vehicle Topics / Nighttime Accidents-Applied Human Factors Concepts for Accident Reconstruction

Safety Belt Examinations VOD (2 hrs), 2018
Institute of Police Technology and Management

Event Data Recorder Use in Traffic Crash Reconstruction – Level II (40 hours), 2018
Institute of Police Technology and Management

Forensic Evidence from Crash Fatalities (20 hrs), 2018
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2018
Planar Collision Mechanics / EDR and Determining Speed from Video
Heavy Vehicle Topics / Nighttime Accidents-Applied Human Factors Concepts for Accident Reconstruction

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2018
Pedestrian Crash Reconstruction / Interpretation and Analysis of Traffic Signal Timing / Momentum, Energy, and Restitution Method for Low-Speed Accident Reconstruction / Low-Speed Collision Analysis

Applied Physics for the Traffic Crash Investigator (40 hrs), 2017
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2017
Tire Forensics / Forensic Mapping Using UAVs / DVR Evidence – Documentation, Analysis, and Presentation

Motor Vehicle Accident Reconstruction and Cause Analysis (40 hrs), 2016
Dr. Rudy Limpert

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Interviewing Techniques for the Traffic Crash Investigator (40 hrs), 2016
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (15 hrs), 2016
Examination and Analysis of Motorcycle and Bicycle Helmets / Hazards of Railroad Tracks for Bicyclists / Bicycle and Motorcycle Stability / Collision Reconstruction Techniques for Bicycle and Motorcycle Collisions / Documentation and Reconstruction Of Nighttime Accidents / Drug Toxicology and Impaired Driving

Speed Determination from Collision Damage (40 hrs), 2015
Collision Reconstruction Engineers, Inc.

Advanced Crash Reconstruction Utilizing Human Factors (40 hrs), 2015
Northwestern University Center for Public Safety

Advanced Pedestrian/Bicycle Collision Investigation (40 hrs), 2015
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2015
Human Factor and Acceleration / Compliance Crash Testing
Tire Mechanics & Inspection (20 hrs), 2014
TRG Tech

Acceleration and Vericom Familiarization (12 hrs), 2014
Vericom Computers, Inc.

Human Factors in Traffic Crash Reconstruction (40 hrs), 2014
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2014
Applied Physics & Rotational Mechanics / GM Ignitions / Rollover Analysis

Forensic Mapping Technician Course (16 hrs), 2013
Precision Survey Supply, LLC

Event Data Recorder Use in Traffic Crash Reconstruction (40 hrs), 2013
Institute of Police Technology and Management

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2013
Fundamentals of Video Analysis / Case Study Using Video Analysis /
Momentum and Simultaneous Equations / Tire Forensics

Crash Data Retrieval Data Analyst Course (40 hrs), 2012
Collision Safety Institute

Crash Data Retrieval Technician Levels 1 and 2 (40 hrs), 2012
Collision Safety Institute

Traffic Crash Reconstruction III (24 hrs), 2011
Arizona Peace Officers Standards and Training

Traffic Crash Reconstruction II (40 hrs), 2011
Arizona Peace Officers Standards and Training

Southwestern Association of Technical Accident Investigators Conference (16 hrs), 2011
Accident Investigation Approach to UTV Incidents /
Mechanics of One Dimensional & Planar Collisions

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Pedestrian/Bicycle Crash Investigation (40 hrs), 2010
Institute of Police Technology and Management

Investigation of Motorcycle Crashes (40 hrs), 2010
Institute of Police Technology and Management

Energy Methods and Damage Analysis in Traffic Crash Reconstruction (40 hrs), 2009
Institute of Police Technology and Management

Traffic Crash Reconstruction (80 hrs), 2009
Institute of Police Technology and Management

Advanced Collision Investigation (40 hrs), 2008
Arizona Peace Officers Standards and Training

Arizona Law Enforcement Academy (16 weeks), 2004
ALEA, Phoenix, AZ

RESEARCH AND TESTING

Participated in a series of Advanced Driver Assistance Systems utilizing a 2022 Tesla Model 3 sedan with an inflatable vehicle target and a Rescue Randy dummy. Performed and participated as a human volunteer passenger with pre-existing spondylolysis in two rear (+3.8 & +5.4 mph Delta Vs) and one frontal (-6.5 mph Delta V) low speed barrier impacts with a 2018 Land Rover Range Rover, which included an instrumented driver, and an instrumented Hybrid III ATD front passenger. Tests performed at Glendale, AZ. February 2026

TEACHING EXPERIENCE

Glendale Police Department, 2017 - 2026
- Vehicular Crimes Unit - Instructor and Field Training Officer 2013 - 2026
- Patrol Accident Investigator-Instructor 2013 - 2020
- Post-Academy Collision Investigation-Instructor
- Total Station/GPS Operator Instructor 2013 - 2026

Arizona Peace Officer Standards and Training, 2010 - 2026
- General Instructor Certification

General Teaching and Training
- One-hour lecture to Physics Class at Independence HS, 2015
- Lead Instructor Patrol Accident Investigator Class (20 Hours), 2015
- Law Enforcement Class at Ironwood HS (1.5 hours per semester), 2016 - 2026
- Lead Instructor Patrol Accident Investigator Class (20 Hours), 2017 - 2023
- Lead Instructor Civilian Service Officer Crash Investigation Class (20 Hours), 2017
- Lead Instructor Civilian Service Officer Crash Investigation Class (10 Hours), 2021
- Presented lecture to AP Math, AP Physics, and AP Statistics students at Apollo HS, 2021
- Co-Instructor AZPOST Traffic Crash Reconstruction I, II, and III, 2022 - 2024
- Co-Presented Pedestrian and Bicycle Safety to GOHS Law Enforcement and Prosecutor's Training Conference Presenter on Pedestrian Safety, 2022
- Basic Crash Investigation for West Valley Law Enforcement Training Academy, 2023 – 2026
- ARS Title 28 Traffic Law for West Valley Law Enforcement Training Academy, 2024 – 2026

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