

Jacob Quarrell, BSMET

Forensic Expert – Accident Reconstruction

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NOT FOR EXPERT DESIGNATION

EDUCATION

BSMET **Bachelor of Science, Mechanical Engineering Technology**
New Mexico State University | May 2019 | Honors

PROFESSIONAL CERTIFICATES

PI **Licensed Private Investigator**
Texas | 2025

FAA **Federal Aviation Administration Remote Pilot License**
sUAS Certification | August 2023

WORK EXPERIENCE

Forensic Expert-Accident Reconstruction
Aperture LLC (Formerly: TNM Engineering) | El Paso, TX | June 2023 - Present

- Investigate crash scenes by photographing, measuring, droning and video analysis of the area.
- Inspect damaged vehicles to identify points of impact and possible mechanical failure.
- Perform vehicle downloads using CDR Tool and HVEDR Tool to recover data from vehicles.
- Utilize physics equations to calculate and reconstruct how a collision occurred.
- Leverage AutoCAD to diagram crash site and implement vehicles to reconstruct impact/ final rest positions.

Mechanical Engineer II/ Tooling Engineer
Raytheon Technologies | Tucson, AZ | June 2019 – June 2023

- Strategic and focused project management to lead projects from start to finish.
- Interacted and focused on customer needs to design and create 3D models using Creo 7 CAD software.
- Developed drawings using GD&T and worked one on one with machinists to fabricate parts.
- Implemented manufactured parts/assemblies into production with hardware and processes.
- Collaboration with interdisciplinary engineering teams to improve hpu reduction, ergo safety and error prevention

Engineering Innovator
Aggie Innovation Space at NMSU | Las Cruces, NM | May 2018 – May 2019

- Collaborated with teams to conceptualize, design, solid model, and build mechanical projects and prototypes.
- Designed using Solidworks CAD software to create student projects based on sketches and ideas.
- Leveraged course work learned through NMSU to lead engineering-based workshops.
- Operate manufacturing machines (mills, lathes, cnc equipment, welding rigs) and other processes.
- Utilized typical prototyping equipment such as 3D printers and laser cutters on daily basis.

Engineering Undergraduate Internship
Los Alamos National Lab | Los Alamos, NM | July 2018 – August 2018 | December 2018 – January 2019

- Designed with Creo CAD Software integrated with Windchill.
- 3D annotated models and utilized GD&T to assist in producing functional drawings to be approved for production
- Performed modifications to existing designs based on program requirements/needs.
- Checked and approved drawings for various programs.

MEMBERSHIPS

National Association of Professional Reconstruction Specialists | NAPARS

SPECIALIZED TRAINING AND CONTINUING EDUCATION

HVEDR Technician-Analysis Training
Owasso, Oklahoma | November 2025

Traffic Crash Reconstruction 1
February 5 – March 1, 2024

Vehicle Dynamics
January 8 – 19 2024

Traffic Crash Investigation 2
November 6, 2023 – January 14, 2024

Traffic Crash Investigation 1
August 14, 2023 – October 8, 2023

Crash Data Retrieval Systems Operating Course
August 2023

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