

B. Ann Grimes, MSME
Engineer
COLLISION ENGINEERING ASSOCIATES, INC.

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EDUCATION

Arizona State University, 2015 – 2018, Mechanical Engineering, BSME

Arizona State University, 2018 – 2019, Mechanical Engineering, MSME

Northwestern University Center for Public Safety, 80 hours classroom instruction, 2021,
Traffic Crash Investigation 1

Northwestern University Center for Public Safety, 80 hours classroom instruction, 2021,
Traffic Crash Investigation 2

Northwestern University Center for Public Safety, 80 hours classroom instruction, 2021,
Traffic Crash Reconstruction 1

Northwestern University Center for Public Safety, 80 hours classroom instruction, 2021,
Traffic Crash Reconstruction 2

Virtual Crash, 2021,
Simulation Basics
Pedestrian Impacts
Advanced Analysis 1
Advanced Analysis 2

Institute of Police Technology and Management, 2021,
Bosch CDR Tool Technician Training

PROFESSIONAL AFFILIATIONS

Societies:

Society of Automotive Engineers, SAE

PROFESSIONAL EXPERIENCE

Documentation of Crash Evidence:

Documentation of vehicle crush profiles, damage patterns, evidence of interaction between vehicles and interactions with roadway items, buildings, and vegetation. Forensic mapping of crash scenes and vehicles using FARO Focus 3D laser scanner, hand measurements and Total Station. Forensic photography documenting crash evidence.

Three-Dimensional Point Cloud Utilization:

Conversion of drone photo images into 3D point clouds and orthomosaic images using Pix4D software.

Faro scan registration into 3D point clouds.

Combining vehicle and scene point clouds to analyze vehicle interactions, motion, damage patterns, and motion on scene terrain.

Crash Analysis:

Accident reconstruction of motor vehicle crashes including the usage of accident site, terrain, and vehicle computer models. Vehicle dynamics and kinematic analysis using 3D computer simulation. Creating visualizations/animations to analyze and demonstrate vehicle and human motion during crash events.

Electronic Vehicle Systems:

Bosch CDR tool for airbag and powertrain control module.

EMPLOYMENT HISTORY

May 2018 – Present

Collision Engineering Associates, Inc., Mesa, Arizona