



DJS

associates

Forensic Consulting, Technology & Animations

BAILEY A. HENTZ, B.S.A.E., ACTAR

Collision Reconstruction Engineer

EDUCATION

Penn State University, University Park, PA – BS Aerospace Engineering, 2021

PROFESSIONAL LICENSES AND CERTIFICATIONS

Traffic Accident Reconstructionist (ACTAR #4403)

Licensed Remote Pilot, Small Unmanned Aircraft System (Drone)

CONTINUING EDUCATION

Evaluating Red Light Running Cases – NAPARS, October 2023

Event Data Recorder Use in Traffic Crash Reconstruction – Abington, PA, November 2022

Traffic Crash Reconstruction – Northwestern University Center for Public Safety, February 2022

Vehicle Dynamics – Northwestern University Center for Public Safety, January 2022

Traffic Crash Investigation – Northwestern University Center for Public Safety, December 2021

Symposium on EDR Research and Training – NAPARS, April 2024

EXPERIENCE

April 2023 – Present

Collision Reconstruction Engineer – DJS Associates, Inc., Abington, PA

Consulting engineer in the area of collision reconstruction. Investigations include site and vehicle inspection utilizing 3D laser scanning technology, electronic surveying equipment, digital photography, UAVs, and videography. Services including expert reports and testimony rendered on behalf of both defendant and plaintiff in civil and criminal matters.

August 2021 – Present

Engineering Analyst – DJS Associates, Inc., Abington, PA

Responsible for providing engineering analysis on case files related to collision reconstruction and vehicle mechanics, as well as project management. Use of 3D laser scanning technology, electronic surveying equipment, digital photography, and videography to investigate and document sites and vehicles. Services rendered on behalf of both defendant and plaintiff in civil and criminal matters.

September 2020 – May 2021

UAV Design Team – Penn State University, University Park, PA

Design and programming of unmanned aerial vehicles (UAVs). Signal detection algorithm development, path planning and machine autonomy for aerospace systems, creating dynamic simulations for aerospace vehicles. Dynamic analyses for grounded and aerial vehicles.

June 2017 –
August 2018

Civil Engineering Intern – Pennsylvania Turnpike Commission (Summer Position)
Responsible for drone survey support, project management, structural analysis, design support, formal engineering documentation.

PROFESSIONAL MEMBERSHIPS

Penn State Aerowomen
Society of Women Engineers (SWE)
National Association of Professional Accident Reconstruction Specialists (NAPARS)

RELEVANT COURSEWORK:

Calculus and Vector Analysis: Three-dimensional analytic geometry; vectors in space; partial differentiation; double and triple integrals; integral vector calculus.

Advanced Computer Programming: Engineering and scientific programming including object-oriented programming, parallel programming, and various modern languages (e.g. C++, Java, and Ada).

Engineering Statics and Strength of Materials: Rigid body equilibrium; internal loads; stress & strain; combined loading.

Autonomous Vehicle Design: Signal detection algorithm development; path planning and machine autonomy; dynamic vehicle simulations.

System Dynamics and Control: Vibrations of single, multiple, and infinite degree-of-freedom systems; operational methods applied to aerospace vehicles; design of controllers.

Stability and Control: Static and dynamic stability and control of aircraft; open and closed loop systems.

Aerodynamics: Fluid mechanics of viscous and compressible flows, laminar boundary layers, turbulent flows, isentropic flows, shock waves, supersonic lift and drag. Derivation of the governing equations for the conservation of mass, momentum, and energy for compressible flow.

PRESENTATIONS

“Acquisition, Analysis, Animations – An A+ Approach to Accident Analysis,” Webinar, Monongalia County Bar Association: Monthly Member Meeting, Abington, PA, November 2024

“Engineering Technology Update,” Webinar, Pennsylvania Bar Institute: Auto Law Update, Abington, PA, November 2024

“Forensic Engineering: New Technology and Ethical Considerations,” Rutgers University RIME Bridge Resources Program, Ewing, NJ, March 2024

“Engineering Technology Update 2023,” Dispute Resolution Institute: Personal Injury Practicum 2023, Philadelphia, PA, October 2023

“Technology in Collision Reconstruction: On the Plaintiffs’ Side,” The Gavel Transportation Group, July 2023