



**Cole M. Vigil, BSME**

## **EDUCATION**

- Bachelor of Science in Mechanical Engineering  
University of Nevada, Las Vegas, 2019

## **EXPERIENCE**

### **American Bio Engineers, LLC, 2016/Present**

6351 Hinson St., Ste. R  
Las Vegas, NV 89118

- Accident Reconstruction with areas of expertise in Vehicular Accidents, Vehicular Dynamics, Speed Analysis, Time/Motion Studies, Vehicle Maintenance, and Design Strength Analysis.

Types of cases reconstructed include: Auto v. Auto Collisions, Auto v. Heavy Truck/Trailer Collisions, Auto v. Truck Collisions, Auto v. Motorcycle Collisions, Auto v. Pedestrian Collisions, and Vehicle Rollovers.

## **PROJECTS**

- Designed and manufactured a crash simulation sled for use in testing low speed car accidents.
- Designed, manufactured, and competed in the CCSD Human Powered Vehicle competition.

## **HONORS AND AWARDS**

- Magna Cum Laude
- University Honors Scholar
- Northwest Career and Technical Academy High School Valedictorian

## **MEMBERSHIPS**

- Southwestern Association of Technical Accident Investigators (SATAI)
- Tau Beta Pi Engineering Honor Society
- Nevada State Board of Professional Engineers and Land Surveyors (Intern)

## PUBLICATIONS

- Vigil C., Salboro C., Jorgensen M., Jones B., Brink J., Swinford S., "Validation of Utilizing a Self-Propelled Crash Sled to Simulate Occupant Accelerations in Minor Rear-End Impacts," SAE Technical Paper, 2022-01-0857

## LECTURES PRESENTED

- Presented SAE 2022-01-0857 technical paper entitled "Validation of Utilizing a Self-Propelled Crash Sled to Simulate Occupant Accelerations in Minor Rear-End Impacts," at the SAE World Congress in Detroit, Michigan 2022.

## SPECIALIZED TRAINING SEMINARS ATTENDED

- "PhotoModeler Training" instructed by *Dan Mills* (Las Vegas, NV, 2017)
- "SATAI Conference" presented by the *Southwestern Association of Technical Accident Investigators (SATAI)* (Glendale, AZ, 2019)
  - Nighttime Crashes on Unlit and Lighted Roads
  - Driver's Acceleration Behaviors
  - Pedestrian Walking Speeds What Numbers to Use?
  - Monte Carlo Methods Applied to Crash Reconstruction
- "SATAI Conference" presented by the *Southwestern Association of Technical Accident Investigators (SATAI)* (Glendale, AZ, 2019)
  - Planar Collision Mechanics
  - Tesla EDR and Determining Speed from Video
  - Heavy Vehicle Topics
  - Nighttime Accidents – Applied Human Factors Concepts for Accident Reconstruction
- "SATAI Conference" presented by *Southwest Association of Technical Accident Investigators (SATAI)* (Glendale, AZ, 2020)
  - Electric Scooters
  - E-Scooter vs. Car Crash Test
  - CDR System Operators / Analysis & Applications Course Series – The CDR 900 Interface and Toyota TechStream / PCS & VCH Data
  - iINPUT-ACE Traffic Seminar
- "2020 IDRR User Forum and Training" presented by *Crash Safety Solutions* (Las Vegas, NV, 2020)
- "EDR Summit" presented by *Collision Publishing* (Houston, TX, 2020)
  - Bosch CDR Tool
  - What Does "End of Event" Mean?
  - Repowering & CDR Technician Review/Update
  - Ignition Cycles

- Locomotive Event Recorder Downloads
  - Crossing Signal Event Recorders
  - Legal Challenges Regarding EDR Data in Testimony
  - Traffic Signal as an EDR; Did it Record Your Crash
  - How an Auto Insurance Carrier Claims Department Incorporates Crash Data into Investigations of Loss
  - Testing and Validation of Toyota Vehicle Control History Data
  - ATV Rollover
  - Subaru ADAS System
  - Pedestrian Automatic Emergency Braking (P-AEB)
  - Can Autonomous Emergency Braking Data be "Event Data?"
  - Tesla Update
  - Berla Update
  - Examples of Forensic Investigations Using the Berla Digital Tool
  - Nissan Steering and Recording Threshold
- "Human Factors for Traffic crash Reconstruction" presented by *Crash Safety Solution* (virtual course, 2021)
  - "3D Editor: Functionality, Friction Zones & Importing Models" *HVE Forum* presented by *Danny Peralta* (virtual conference, 2021)
  - "Advanced HVE: Parts I & II" *HVE Forum* presented by *Anthony D. Cornetto, P.E., President* (virtual conference, 2021)
  - "Cloud Compare Course" Presented by *ai2-3D Forensics* (virtual course 2021)

## RESEARCH

- Mar 2018 Performed and participated in instrumented oblique lateral minor impacts involving human female subjects and instrumented Hybrid III ATDs at angles of 45°, 60°, and 90° using 2005 to 2007 Toyota Camrys and Corollas in Las Vegas, NV.
- Jun 2018 Performed and participated in instrumented car-to-car rear-end impacts with human subject using 2005 to 2007 Toyota Camrys and Corollas in Las Vegas, NV.
- Jan 2019 Performed and participated in instrumented remote driven broad-side rollover collision between a Tahoe and Grand Marquis, a multiple vehicle rear-end impact with a Town car, motorcycle and Prius, and yaw testing with a Suburban in Glendale, AZ.
- Jan 2019 Performed and participated in rear-end impacts between an Impala and Grand Marquis with instrumented volunteers in Glendale, AZ.
- Jan 2021 Performed and participated in rear-end, angled, and frontal impacts between a 2015 Hyundai Elantra and a 2015 Chevrolet Sonic with instrumented Hybrid III ATDs in Glendale, AZ.