EDUCATION

KETTERING UNIVERSITY

- **MSME,** Mechanical Engineering, 2014
- **BSE,** Mechanical Engineering, 2009

LICENSES & CERTIFICATIONS

- Professional Engineer, State of Michigan, #6201066775
- Professional Engineer, State of Florida, #79095
- Professional Engineer, State of California, #37055
- Aerial Work Platform Operator
- Remote Pilot Operator, Certificate Number 4246787
- Certified Flagger

AFFILIATIONS

- Society of Automotive Engineers (SAE)
- National Association of Professional Accident Reconstruction Specialist (NAPARS)

EXPLICO ENGINEERING

JOSEPH NEAL, MSME, PE

Accident Reconstruction | Transportation Engineering

PROFESSIONAL PROFILE

Mr. Neal's experience includes mechanical engineering positions in the automotive and consulting industries. As an engineer, he conducts vehicle accident and mechanical component investigations, and applies the principles of design, analysis, testing, and safety to forensic evaluations involving traffic crash investigation and reconstruction. Mr. Neal has performed hundreds of accident investigations and reconstructions.

Mr. Neal's experience includes tractor/trailer, motorcycle, passenger vehicle, pedestrian, construction zones and traffic control investigations and reconstructions. He is trained in using and has performed simulations using HVE, PC-Crash, and Virtual Crash. Mr. Neal is a trained technician in Crash Data Retrieval (CDR) and an analyst of CDR reports and has performed hundreds of vehicle data retrievals. He is also trained in commercial vehicle data imaging and analysis and has performed commercial truck data retrievals from various heavy truck manufacturers.

Mr. Neal is trained in and has performed hundreds of photogrammetry evaluations (taking measurements from photographs). He is trained in the design and operation of work zone traffic control zones and as a certified flagger. Mr. Neal has been trained in, and has evaluated hundreds of, the operation of traffic signal timing and phases. Mr. Neal has performed crash sled testing, including frontal, rear and side impacts, and holds B.S. and M.S. degrees in Mechanical Engineering from Kettering University.

AREAS OF EXPERTISE

- Accident Reconstruction
- Single, Multiple, and Specialty Vehicle Accident Reconstruction
- Pedestrian-Vehicle Incidents
- Commercial Vehicle Investigations and Reconstruction
- Event Data Records (Passenger Vehicles, Commercial Vehicles, and Dash Cameras)
- Motorcycle Incidents
- Photogrammetry
- Evidence Preservation
- Collision Severity and Vehicle Damage Analysis
- Simulations
- Product Liability
- Digitization and CAD Rendering of Accident Scenes
- Litigation Support
- Traffic Signal Operation Analysis
- Roadway Construction Zones/Temporary Traffic Control

CONTACT INFORMATION

(248) 914-8037 | jneal@explico.com | explico.com

EXPERIENCE

- **Explico Engineering**
  Senior Engineer — 2016-Present
- **Kimley-Horn and Associates**
  Mechanical Engineer — 2011-2016
- **Kettering University**
  Graduate Research Assistant — 2009-2011
- **Magna Seating**
  Mechanical Engineering Co-op — 2004-2009

PEER-REVIEWED ARTICLES

Neal, Joseph, Charles Funk, and David Sproule. The Accuracy of Vehicle Modeling When Using an Inversely Calibrated Camera in PhotoModeler. No. 2021-01-0883. SAE Technical Paper, 2021

Neal, J., & Brelin-Fornari, J. (2013). Child Restraint Systems: Top Tether Effectiveness in Side Impact Collisions (No. 2013-01- 0601). SAE Technical Paper. Ludwigsen, D., Brelin-Fornari, J., & Neal, J. (2011). Crash Safety in the Introductory Physics Lab. In American Society for Engineering Education. American Society for Engineering Education.

PROFESSIONAL DEVELOPMENT

- **CRASH SAFETY SOLUTIONS**

  Advanced Human Factors for Traffic Crash Reconstruction, October 2021
- **NAPARS**

  Tire Forensics Class, March 2021, Chattanooga, TN
- **Traffic Signal Design and Operation NHI-133121**

  March, 2020
- **Certified Flagger**

  May, 2019
- **Remote Pilot Operator**

  April, 2019

- **Safety Training Aerial Work Platform Operator Certification**

  July, 2018, Novi, MI

- **Northwestern University Center for Public Safety**

  Traffic Accident Reconstruction, April 2012, Evanston, IL

  Heavy Vehicle Accident Reconstruction, May, 2018, Evanston, IL **SAE International**

  Speaker at the SAE 2013 World Congress, April, 2013, Detroit, MI

  Accessing and Interpreting Heavy Vehicle Event Data Recorders, May, 2014, Charlotte, NC

  Applying Automotive EDR Data to Traffic Crash Reconstruction, December, 2016, Troy, MI

  Photogrammetry and Analysis of Digital Media, December, 2017, Troy, MI

  Commercial Vehicle Braking Systems Seminar, May, 2018, Troy, MI

- **MRWA**

  Temporary Traffic Control, March 2018, Brighton, MI

- **National Highway Institute**

  Design and Operation of Work Zone Traffic Control, November 2017, Sterling, VA

- **Collision Publishing**

  EDR Summit, March, 2017, Houston, TX

- **Engineering Dynamics Corporation**

  EDC Reconstruction, November 2012, Miami, FL

  EDC Simulations, November 2013, Miami, FL

  2016 HVE Forum, February, 2016, Phoenix, AZ

- **Safety Council of Palm Beach County, Inc.**

  Maintenance of Traffic, March, 2014, Riviera Beach FL

- **DCM Technical Services Inc**

  PhotoModeler for Accident Reconstruction Analysis, May, 2013, West Palm Beach, FL

- **Northwestern University Center for Public Safety**

  Crash Data Recorder System Technician – Level 1 & 2, March, 2013 - Evanston, IL

- **Collision Engineering Associates, Inc.**

  DiscoverHVE, West Palm Beach, FL