



**Exponent<sup>®</sup>**  
Engineering & Scientific Consulting

## Nathan Johnson

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### Professional Profile

Mr. Johnson's professional and educational expertise includes vehicle dynamics, vehicle suspension kinematics, solid mechanics, computational fluid dynamics, finite element analysis, and computer-aided design (CAD). He is experienced in performance automotive design and manufacture-- specifically with vehicle suspension systems and manual transmissions. Mr. Johnson is actively involved in the field of traffic accident reconstruction, accident investigation, and failure analysis. He is experienced in imaging vehicle event-data recorders, laser scanning for the purposes of accident reconstruction, video and photo analysis using photogrammetry, single- and multi-vehicle collision simulations, and a variety of accident reconstruction analysis methodologies. Additionally, his expertise allows for data analysis and visual presentation using Python and MATLAB. Mr. Johnson is skilled at 3D modeling and is certified by Dassault Systems as a SolidWorks professional.

Prior to joining Exponent, Mr. Johnson worked as an Engineering Draftsman at Auto Gear Equipment and supported the design of aftermarket transmissions and shifters for street and racing applications. He was also a member of Formula SAE, where Mr. Johnson was heavily involved in engineering three generations of formula race cars. While on the team, he held the positions: Chief Engineer, Chassis Integration Manager, and Suspension Leader. Mr. Johnson coordinated suspension system design, manufacture, assembly, integration, and tuning. Along with technical contribution, he also was key player in team recruitment, marketing, and sponsor acquisition.

### Academic Credentials & Professional Honors

M.S., Mechanical & Aerospace Engineering, Syracuse University, 2020

B.S., Mechanical Engineering, Syracuse University, 2019

### Licenses and Certifications

FAA Part 107 Certified Commercial Drone Pilot (PA)

SOLIDWORKS Certificate in Mechanical Design

### Prior Experience

Engineering Draftsman, Auto Gear Equipment, Jan 2020 - Mar 2021

Teaching Assistant at College of Engineering and Computer Science, Syracuse University, Aug 2019 – Dec 2020

## Professional Affiliations

Society of Automotive Engineers (member)

American Society of Mechanical Engineers (member)

## Additional Education & Training

"2023 HVE Forum", Engineering Dynamics Company, Fort Myers FL, February 2023

"Crash Data Retrieval (CDR) Data Analyst", Collision Safety Institute, Galveston TX, December 2022

"Traffic Crash Reconstruction 2", Northwestern University Center for Public Safety, Phoenix AZ, October 2022

"Traffic Crash Reconstruction 1", Northwestern University Center for Public Safety, Phoenix AZ, October 2022

"Traffic Crash Investigation 1", Northwestern University Center for Public Safety, Phoenix AZ, October 2022

"Point Clouds in Collision Reconstruction: Speed from Video and Crush from Photos", LitePoint, August 2022

"Air Brake Training", Bendix, Minneapolis MN, June 2022

"Bosch® CDR Tool Technician Training by IPTM", Institute of Police Technology and Management, March 2022