Alex Scaler
Curriculum Vitae

ASC FORENSICS
EXPERT FORENSIC ANALYSIS

BACKGROUND

Mr. Scaler is a Mechanical Engineer who evaluates vehicle performance and safety systems in real-world operating conditions, including crash and incident scenarios. He investigates and testifies in matters involving accident reconstruction, vehicle performance, and safety systems, including crash-sensing, restraint, collision avoidance, braking, and stability systems. His experience includes analysis of vehicle operation, handling and stability, and driver-vehicle interaction.

Mr. Scaler's background includes extensive experience in the design, development, testing, evaluation, and manufacture of automotive and off-road vehicle systems, including vehicle safety and control systems. This work has provided direct exposure to how vehicle subsystems perform and integrate within the broader vehicle architecture. He also has hands-on experience in vehicle assembly, maintenance, service, and repair from his work as a professional motorsports technician, constructor, and fabricator.

AREAS OF EXPERTISE

- Accident Reconstruction
- Occupant Safety & Protection Systems
- Collision Avoidance Technologies (ADAS)
- Vehicle and Component Testing
- Vehicular Handling and Stability
- Onboard Vehicle Data Analysis & Diagnostics
- Photogrammetric Analysis
- Crash Simulation and Animation

EDUCATION

- Bachelor of Science with High Honors in Mechanical Engineering, Rutgers School of Engineering
- Board of Professional Engineers, Licensed Engineer in Training (EIT) TX # 78575
- Board of Professional Engineers, Licensed Engineer in Training (EIT) PA # ET029989
- Crash Investigation 1, Northwestern University Center for Public Safety
- Crash Investigation 2, Northwestern University Center for Public Safety
- Human Factors in Traffic Accident Reconstruction, IPTM, University of North Florida
- Bosch CDR Tool Technician, University of North Florida Institute of Police Technology and Management
- Event Data Recorder Use in Traffic Crash Reconstruction for Engineers, Ruth Consulting
- Advanced Photogrammetry for Collision Reconstruction, Lightpoint Learning
- Virtual CRASH Accident Reconstruction Software Training Course – Essentials and Animations
- Determining Speed From Video – Vehicle Positioning Methods, Lightpoint Data
- Microsoft Excel for Traffic Crash Reconstruction, Rich Consulting LLC
- 3 Generations of Air Bag System – Operation, Servicing, and Troubleshooting, NAPA Auto Parts
- Advanced Driver Assistance Systems (ADAS) – Operation, Testing and Calibration, ATEC Training
- Advanced Driver Assistance Systems (ADAS) – Advanced Technology Vehicles, ADAS Best Practices – WORLDPAC Training Institute
- Advanced Driver Assistance Systems (ADAS) – Successful Calibrations & Troubleshooting – L1 Automotive Training
- High-Speed CAN Communication – Automotive Seminars, Inc.
- Electronic Vehicle Stability Controls (VSC) – Anti-slip, Anti-slide, Anti-spin, Anti-skid, ATEC Training
- Advanced Steering and Suspension, ATEC Training
- Mastering Wheel Alignment Angles, ATEC Training
- Safety Belt Examinations, University of North Florida Institute of Police Technology and Management

- Troubleshooting 3 Generations of Airbag Electrical Systems, ATEC Training
- Electronic Throttle Systems (ETC) – "Fly-by-wire", ATEC Training
- Diagnosing Vehicle Networks and Data Lines, including Controller Area Network (CAN) Systems, ATEC Training
- Reading Wiring Diagrams, ATEC Training
- Opportunities in Hybrid Vehicle Service Course, ATEC Training
- Advanced Tire Pressure Monitoring Systems (TPMS) Diagnosis, ATEC Training
- TPMS: Tire Pressure Monitoring Systems, NAPA Auto Parts
- Federal Aviation Administration (FAA) Part 107 Remote Pilot Training, Drone Pro Academy

PROFESSIONAL AFFILIATIONS

- Accreditation Commission for Traffic Accident Reconstruction (ACTAR)
- Society of Automotive Engineers (SAE)
- National Association of Professional Accident Reconstruction Specialists (NAPARS)
- Sports Car Club of America (SCCA)
- Experimental Aircraft Association (EAA)

PROFESSIONAL EXPERIENCE

2022 – Present | ASC Forensics | Forensic Engineer and Accident Reconstructionist

- Research, analyze, and test the effectiveness of occupant protection systems
- Research the performance of Advanced Driver Assistance Systems (ADAS)
- Investigate and reconstruct collisions involving passenger and commercial vehicles, off-road vehicles, trailers, and other "tow-behind" systems
- Perform data retrieval and analysis from on-board Event Data Recorders
- Apply handling and stability principles to evaluate vehicle behavior in real-world collisions
- Apply and relate driver/rider behavior to outcomes of real-world collisions
- Perform vehicle and site inspections to accurately relate, assess, and document the available evidence
- Provide consulting services in the design and fabrication of innovative vehicle systems for use in the off-road motorsports industry

2020 – 2022 | Automotive Safety Consulting | Forensic Engineer and Analyst

- Analyze the performance of both active and passive restraint systems in real-world crashes
- Research the technological advancement of supplemental restraint system technology through its implementation in the automotive industry
- Identify defects/deficiencies, or lack thereof, in the design or implementation of occupant protection systems
- Determine the feasibility of safety system technologies for mitigating permanent or fatal injuries in a wide variety of real-world crash conditions. (i.e., frontal, side, rollover, and rear impact collisions)

2020 – 2022 | ARCCA, Inc. | Forensic Engineer & Senior Accident Reconstructionist

- Investigate and reconstruct passenger and commercial vehicle collisions
- Apply handling and stability principles to evaluate vehicle behavior in real-world collisions
- Perform data retrieval and analysis from vehicle on-board Event Data Recorders
- Preserves scene and vehicle evidence by capturing three-dimensional laser scanning hardware and software
- Utilize reconstruction software to analyze collisions and three-dimensional scan data
- Perform vehicle and site inspections
- Conduct research and pioneer the latest technology in motorsports biomechanics to optimize driver performance and safety

2016 – Present | Advantage Motorsports

Motorsports Engineer, Designer, & Technician

- Design and incorporate driver safety devices into new and existing racecars to reduce crash-related injuries
- Design, manufacture, test, and distribute a proprietary disc brake package for off-road vehicle use
- Design a computer-controlled, remote suspension adjustment tool for motorsports using the C++ programming language, microcontroller, and fabricated components that react to live onboard data readings
- Design various mechanical and aerodynamic devices for a land-speed racing vehicle seeking to break records above 300 mph
- Experienced in additive manufacturing technology for product prototyping, material selection, and analysis
- Participate in vehicle drivetrain tuning and optimization through dynamometer testing
- Use onboard data acquisition tools to determine vehicle performance limits and diagnose mechanical issues
- Led a team that specializes in the maintenance and construction of racecars for motorsports competition
- Design and construct unique and innovative racecars to compete in national competitions
- Create improvements in all areas of racecar performance and measure the effect through post-test data analysis

Driving Instructor & Data Analysis Engineer

- Instruct and coach a variety of racecar drivers competing in Porsche Club of America (PCA), BMW Car Club of America (BMW CCA), Formula Race Promotions (FRP) Pro Series, International Motor Sports Association (IMSA), Sports Car Club of America (SCCA), Vintage Racer Group (VRG), and recreational track days
- Use a combination of onboard vehicle data acquisition and video to identify practical areas of improvement for each individual driver

Professional Racecar Driver

- Conduct extensive tests to determine ideal vehicle dynamics for a variety of different racecars – including, but not limited to, tire construction and compounds, suspension geometry, shock absorber settings, aerodynamic devices, transmission gearing, engine tuning, driver ergonomics, steering settings, and hydraulic braking design.
- Create baseline parameters for suspension components through on-track testing of the vehicle's handling and stability
- Drive to collect consistent data to determine variations in car setup
- Develop motion characteristics and settings of a three-axis Simcraft racing simulator
- Competitive racecar driver in multiple categories

2016 – 2020 | Powerslide Motorsports | Professional Racecar Driver, Motorsports Engineer, System Designer, Technician

- Operate and manage a professional race shop that constructs both modern and vintage race cars
- Led all at-track activities to ensure a safe and successful performance from all customer cars
- Complete vehicle restorations and maintenance for both street and motorsports use
- Modify street vehicles for motorsports use
- Construct racecars from raw materials through machining, fabricating, and welding

RELATED VEHICLE DYNAMICS / AUTO RACING EXPERIENCE

2021 - 2025

- 2025 SCCA National Champion
- 2025 SCCA President's Cup Recipient
- 2025 SCCA Stevenson Wood Cup Recipient
- 2025 Driver of the Year Award – SCCA
- SCCA Record Holder
- SCCA National Championship Runoffs

2020

- 2020 SCCA Stevenson Wood Cup Recipient
- SCCA Northeast Majors Conference Champion
- SCCA National Championship Runoffs

2019

- Formula Race Promotions Pro Series
- Team USA Scholarship Finalist
- Mazda Road to 24 Scholarship Nomination
- Porsche Track Experience Instructor Program, Birmingham, Alabama
- SCCA National Championship Runoffs

2018

- Multiple SCCA lap records set
- SCCA National Championship Runoffs Podium Finish

2017

- Driver of the Year Award – SCCA
- Winner of the GP Four Pro Championship
- SCCA Northeast Majors Conference Champion
- SCCA National Championship Runoffs

2015 - 2016

- SCCA National Championship Runoffs

2005 - 2014

- National Sprint Kart Racing with the World Karting Association
- Motocross Racing

Updated 1/2026