



Unified
Investigations & Sciences, Inc.



South Central Service Center

Richard H. Schulze, P.E.

*Mechanical Engineer
Automotive Specialist*

Dallas, Texas
214-946-8989
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EDUCATION:

University of Texas
Austin, Texas
Bachelor of Science
Mechanical Engineering

EMPLOYMENT:

UNIFIED INVESTIGATIONS & SCIENCES, INC.

Dallas, Texas

Mechanical Engineer

Analysis of mechanical design, mechanical failure, and electrical failure of components and systems in automobiles, commercial trucks, heavy equipment, and recreational vehicles. Origin and cause investigations of vehicle and heavy equipment fires. Motor vehicle accident investigation and reconstruction. Evaluation of damage due to accidents, vandalism, theft, hail, contamination, and security breaches of vehicles. Cause of water losses in structures and appliances. Industrial and shop accident investigations.

2001 to present

EOA SYSTEMS INC.

Dallas, Texas

Mechanical Design Engineer

Design and development of robotic tools for the automotive and aircraft industry. Technical customer support, custom modifications of tools, and determination of proper tool size based on dynamic forces created by robotic movement. 3-D modeling of product line. Maintenance of Web site database.

1998-2001

EMPLOYMENT (CON'T):

THORNHILL & ASSOCIATES

Austin, Texas

Automotive Expert

Analysis of mechanical failure, electrical failure, design, and repair of automotive, commercial truck, and recreational vehicles and all of their systems. Evaluation of damage due to vandalism, theft, loss of control, contamination, and security breaches.

1996-1998

BALCONES AUTO REPAIR

Austin, Texas

Master Automotive Technician

Repair and restoration of upper end European luxury and sport cars. General repairs to all systems. Frame off restorations, including structural welding; electrical harness repair; engine repair and overhaul; transmission repair and overhaul; performance modifications; custom tuning; and race track preparation.

1992-1994

INTERNATIONAL AUTO REPAIR

Austin, Texas

Master Automotive Technician

Repair of current and classic European sports cars. General repairs to all systems. Engine repair and overhaul, transmission repair and overhaul, electrical harness repair, and custom tuning.

1990-1992

VAN LUPPEN MOTORS

Houston, Texas

Owner/Operator and Automotive Technician

Repair and restoration of upper end European, Japanese, and domestic luxury and sport cars, motor homes, motorcycles, and trucks. All repairs to all systems. Electrical harness repair, electrical component repair, engine repair and overhaul, transmission repair and overhaul, performance modifications, custom tuning, custom system design, custom car design and repair.

1985-1990

GRAND PRIX MOTORS

Houston, Texas

Automotive Technician

Repair and restoration of upper end European luxury and sport cars. General repairs to all systems. Design and implementation of fuel, emission, and safety systems to convert European luxury and sports cars to US specifications. Passing EPA and DOT testing of conversions.

1983-1985

EMPLOYMENT (CON'T):

MOTOR CARS LTD.

Houston, Texas

Automotive Technician

Repair and restoration of Jaguar luxury and sport cars. Repairs to engine, electrical, fuel, air-conditioning, brake, suspension, and steering systems. Overhaul of most components.
1981-1983

B. J. HUGHES

Bryan, Texas

Truck Technician

Repair of brakes, electrical systems, standard transmission repair and overhaul, repair of 9000 series Allison automatic transmission, and repair of many types of custom oil field specific equipment.
1980-1981

FRANKS CASING CREW

Bryan, Texas

Truck Technician

Repair of brakes, electrical systems, standard transmissions, and engines. Repair of many types of custom oil field specific equipment.
1979-1980

LASZLO'S FOREIGN CAR SERVICE

Richardson, Texas

Automotive Technician

Repair of engines, electrical systems, and fuel systems. Organized and implemented and ran a department for the overhaul of alternators, generators, and starters.
1976-1979

SPECIALIZED TRAINING:

- Public Agency Training Council – Forensic Fire Scene Investigation, Denton, Texas, 16 Hours Tested, December 2008
- Public Agency Training Council - Fire Pattern Recognition and Identification, Denton, Texas, 20 Hours tested, December 2008
- IAAI – Expert Courtroom Testimony Program, Fort Worth, Texas, 40 Hours Tested, August 2008
- IAAI – Vehicle Fire, Arson, & Explosion Investigation Science & Technology Seminar, Lexington, Kentucky, 40 Hours tested, September 2007

SPECIALIZED TRAINING (CONT'D):

- TEEX - Texas A&M University, Vehicle Damage and Energy Relationship in Collision Reconstruction, DFW Airport, Texas, May 2005, 40 hours, tested
- TEEX - Texas A&M University, Collision Reconstruction, Austin, Texas, October 2001, 80 hours, tested
- Progression Technologies, Inc., SolidWorks Version 3 & 4 CAD 3-D Modeling, Dallas, Texas, 2000, 40 hours, tested
- Avatech Solutions, Inc., AutoDesk Mechanical Desktop CAD 3-D Modeling, Dallas, Texas, 1998, 40 hours, tested
- University of Texas, AutoCad, Austin, Texas, 1994, 3 college credit hours, tested
- R-12 Refrigerant Handling School, Austin, Texas 1990, 8 hours, tested
- Ford ECC IV Fuel System School, Houston, Texas, 1989, 16 hours, tested
- Bosch L-Jetronic School, Houston, Texas, 1983, 8 hours, tested
- Bosch CIS Fuel Injection School, Houston, Texas, 1983, 8 hours, tested
- Allison Manufacturing, Allison 9000 Series Automatic Transmission School, Houston, Texas, 1981, 40 hours, tested
- Fuller Eaton, Fuller Eaton RoadRanger Factory Transmission School, Houston, Texas, 1981, 24 hours, tested

EXPERIENCE:

Mr. Schulze worked as an automotive mechanic for almost two decades before becoming a mechanical engineer. He has worked on and is intimately familiar with virtually every motorized vehicle made, including automobiles; light and heavy trucks; heavy machinery; and motorcycles. Mr. Schulze has performed work on all types of related electrical and mechanical systems, including engine repair; automatic transmission/transaxle; manual drive train and axles; suspension and steering; brakes; electrical systems; heating and air-conditioning and engine performance; and closed loop feedback systems. He has also designed and installed air-conditioning systems, closed loop fuel systems, custom wiring harnesses custom high performance cooling systems, emission control systems (including EGR, smog pumps, and catalyst exhaust), forced induction systems (turbochargers, superchargers, and intercoolers), high performance engine modifications (coordinated with fuel and ignition), nitrous oxide injection systems, security systems (with remote, pager, battery back-up and auto entry) and custom audio systems.

LICENSES:

- Licensed Professional Mechanical Engineer in the State of Texas No. 91986
- Licensed Professional Mechanical Engineer in the State of Arkansas No. 12140
- Licensed Professional Mechanical Engineer in the State of Arizona No. 42549
- Licensed Professional Mechanical Engineer in the State of Georgia No. PE30354
- Licensed Professional Mechanical Engineer in the State of Louisiana No. 31707
- Licensed Professional Mechanical Engineer in the State of Oklahoma No. 21960
- The National Council of Examiners for Engineering and Surveying (NCEES) No. 26394

CERTIFICATIONS:

- Certified Fire and Explosion Investigator- National Association of Fire Investigators (NAFI), 2005
- Crash Data Retrieval System Certification- Collision Safety Institute (CSI), 2005
- Certified Hazardous Materials Technician (OSHA Rule 29 CFR 1910.120)
- Formerly Certified Automotive Service Excellence (ASE) Master Technician, 1990-1997
 - Engine repair
 - Automatic transmission/transaxle
 - Manual drive train and axles
 - Suspension and steering
 - Brakes
 - Electrical systems
 - Heating and air-conditioning
 - Engine performance
- Advanced Open Water Diver, Professional Association of Diving Instructors

PROFESSIONAL ORGANIZATIONS:

- National Association of Fire Investigators – Member
- The Center for Auto Safety – Member

COURT QUALIFICATIONS:

Expert witness in Mechanical Engineering:

- United States District Court