

KADEEM MANNING

San Antonio, Texas | Engineering & Technical Professional

PROFESSIONAL PROFILE

Engineering-trained technical professional with multidisciplinary experience spanning **laboratory research, materials testing, vacuum deposition, instrumentation and controls, industrial automation, metrology, sensor systems, environmental field instrumentation, technical documentation, logistics, commercial transportation, and project operations.** Experienced working with engineers, scientists, technicians, contractors, field personnel, and customers in laboratory, industrial, environmental, infrastructure, construction, and remote field environments.

Hands-on experience includes **materials characterization and failure analysis, vacuum systems and thin-film deposition, sensor installation and calibration, industrial control systems, SCADA, data acquisition, field instrumentation, equipment troubleshooting, sample preparation, laboratory documentation, QA/QC, technical research, and equipment/resource coordination.**

Strong mathematical and analytical foundation supported by an **Associate of Applied Science in Engineering.** Experienced with both highly controlled laboratory environments and demanding field conditions requiring independent troubleshooting, documentation, safety compliance, travel, and technical decision-making.

PROFESSIONAL EXPERIENCE

API METROLOGY — CONTRACTED TO SIMCO

Metrology Technician Trainee → Field Calibration Coordinator

March 2022 – November 2023 | Nationwide / Lower 48 & Alaska

Progressed from Metrology Technician Trainee into **Field Calibration Coordinator** during an approximately 18-month nationwide field contract involving environmental, agricultural, industrial, infrastructure, construction, and federal-land instrumentation.

- Performed **calibration, verification, maintenance, configuration, replacement, and troubleshooting of field-deployed sensors and instrumentation.**

- Established and documented baseline measurements; adjusted sensor parameters and verified instrument output against known standards and expected operating ranges.
- Connected and operated calibration equipment including **multimeters, loop calibrators, pressure calibrators, temperature references, signal generators, data loggers, fiber tools, laptops/tablets, and handheld data-acquisition equipment.**
- Worked with a broad range of sensing technologies including:
 - Dielectric and electromagnetic sensors
 - Multiphase sensors
 - Capacitive and FDR probes
 - TDR / time-domain reflectometry sensors
 - Inclinometers
 - Gamma-ray attenuation probes
 - Geonics EM38-MK2, EM31, and EM34
 - Cosmic-ray neutron sensors
 - Ground-penetrating radar (GPR)
 - Bistatic radar systems used to survey topsoil layers
 - UAV-mounted multispectral, thermal, and SWIR payloads
 - Wind-speed and wind-vane sensors
 - Differential and primary temperature sensors
 - Relative-humidity sensors
 - Solar-radiation / pyranometer instrumentation
 - Precipitation gauges
 - Air-quality, ambient, and gaseous sampling instrumentation
 - O₃, sulfur-dioxide, carbon, and nitrogen-dioxide sampling systems
 - Additional environmental and free-line/SOG sensing systems
- Replaced failed or degraded sensors and restored instrumentation to operational condition.
- Performed sensor configuration and programming and verified communications/data acquisition following service.
- Recorded calibration results, field measurements, equipment status, corrective actions, and QA/QC information.
- Maintained responsibility for **quality assurance and quality-control standards** associated with field calibration activities.
- Planned field routes and coordinated access and work requirements with site personnel across geographically dispersed locations.
- Managed field inventories of instruments, spare sensors, tools, calibration equipment, and consumables.
- Developed **SOPs for new technicians** and standardized procedures for recurring field activities.
- Performed work in remote and physically demanding environments requiring PPE, climbing, elevated work, confined/industrial areas, active electrical infrastructure, construction zones, highways, and other controlled-access locations.

- Worked across **national parks, Bureau of Land Management properties, agricultural fields, soil-monitoring networks, landfills, utility and pipeline rights-of-way, industrial facility perimeters, commercial development sites, bridge/highway infrastructure, and active construction sites.**
- Field locations included areas associated with **Rocky Mountain, Joshua Tree, Death Valley, Sequoia, Shenandoah, and Yosemite National Parks**, as well as other federal and private properties.
- Operated independently for extended travel rotations, typically approximately **six weeks in the field followed by approximately ten days off.**

NANOHMICS

VAC Lab Research Technician — Vacuum Deposition

Austin, Texas | 2018 – 2022

Worked in a research laboratory environment supporting engineers and scientists involved in vacuum deposition, sensor development, device fabrication, testing, and experimental work.

- Prepared samples and devices through **cutting, mounting, polishing, cleaning, and dimensional preparation.**
- Assembled experimental test fixtures for sensors, optical components, and prototype devices.
- Built and modified experimental setups involving **sensor wiring, basic electronics, cabling, connectors, and instrumentation.**
- Operated and supported vacuum-deposition equipment including:
 - Thermal evaporators
 - Electron-beam evaporators
 - PECVD/chamber systems
 - Roughing pumps
 - Turbomolecular pumps
 - Cryopumps
 - Thermocouple and ionization gauges
 - Quartz-crystal microbalance (QCM) thickness/rate monitoring
- Worked with wafers, substrates, carriers, shadow masks, fixtures, and vacuum-compatible components.
- Performed routine equipment checks, calibration checks, consumable replacement, and basic troubleshooting.
- Worked with **ultrasonic cleaners, plasma cleaners/ashers, helium leak detectors, torque wrenches, vacuum flanges, seals, and associated laboratory tooling.**
- Collected, logged, and organized experimental data for engineers and scientists.

- Maintained laboratory notebooks and organized raw experimental data.
- Supported prototype sensor testing and experimental fixture development.
- Performed laboratory material and chemical inventory activities.
- Followed laboratory safety, chemical-handling, contamination-control, and defense-contractor compliance requirements.
- Worked with precision components and laboratory equipment requiring careful handling, repeatability, cleanliness, and procedural discipline.

PEACE CORPS — GABORONE, BOTSWANA

Technical / Instrumentation & Controls Project Work

2015 – 2018

Performed technical field and infrastructure work associated with gray-water facilities and developing community infrastructure, including extensive **instrumentation, controls, sensor deployment, automation, SCADA, and project coordination**.

- Selected, installed, configured, monitored, and maintained industrial sensors and automation loops.
- Performed work comparable to an **Instrumentation & Controls Lead Technician** function within field project environments.
- Implemented and worked with industrial sensing technologies including:
 - Inline oil-condition sensors
 - Dielectric/spectroscopic sensing
 - Distributed acoustic sensing (DAS)
 - Distributed fiber-optic sensing (DFOS)
 - MEMS-based ultrasonic flow sensing
 - Multiphase flow sensing
- Worked with **SCADA systems** for monitoring and control.
- Worked with **AutomationDirect DirectLOGIC and Productivity Series controllers** and ProductivitySuite.
- Worked with **Siemens SIMATIC S7-1200 and S7-1500 PLC platforms** and TIA Portal.
- Supported automation-loop implementation, sensor integration, troubleshooting, and field commissioning.
- Coordinated materials, equipment, schedules, and technical activities associated with field projects.
- Worked extended shifts, including **12-hour work schedules**, in demanding field environments.
- Supported gray-water infrastructure intended for developing/upcoming communities.

- Combined hands-on field installation with instrumentation configuration, system monitoring, troubleshooting, and project coordination.
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PRINCIPLE MATERIALS

Laboratory Technician

Denton, Texas | 2012 – 2015

Laboratory technician supporting **materials testing, characterization, chemical/thermal testing, and failure-analysis activities** involving metals, polymers, composites, and engineered materials.

- Prepared samples and specimens for laboratory analysis through **cutting, grinding, polishing, cleaning, sizing, mounting, and other preparation procedures**.
 - Performed routine materials testing and supported failure-analysis investigations.
 - Worked with **hardness, chemical, and thermal testing** procedures.
 - Operated laboratory and materials-processing equipment including:
 - Jaw crushers
 - Material grinders
 - Ovens and muffle furnaces
 - Sieve shakers
 - Precision molds
 - Analytical balances
 - Heavy-capacity scales
 - Calipers
 - Micrometers
 - Universal testing machines (UTM)
 - Sample-preparation equipment
 - Conducted bench and specimen preparation for testing programs.
 - Followed testing procedures, laboratory safety requirements, quality procedures, and project-specific specifications.
 - Collected and documented measurements and test information.
 - Supported engineers and technical personnel with preparation and execution of materials-testing programs.
 - Maintained laboratory work areas, equipment, tools, and materials.
 - Worked with materials and samples associated with construction, manufacturing, engineered products, and failure-analysis investigations.
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TRANSPORTATION BUSINESS

Owner / Operations Manager → Owner-Operator / CDL Driver

2018 – Present

Owned and operated a commercial transportation business while simultaneously maintaining technical employment.

Business / Operations Responsibilities

- Owned and managed commercial transportation operations.
- Managed commercial vehicle acquisition, insurance, maintenance coordination, operating expenses, compliance, vendors, and service providers.
- Managed vehicle and equipment records and operational documentation.
- Hired and coordinated commercial drivers.
- Contracted third-party dispatch services.
- Coordinated routes, loads, schedules, equipment availability, and transportation logistics.
- Managed supply-chain and shipment movement activities.
- Tracked packages, equipment, materials, and operational requirements.
- Coordinated maintenance and repair requirements while minimizing equipment downtime.
- Performed vehicle inspections and ensured equipment was maintained in operational condition.

CDL / Field Operations

- Class A CDL commercial driver.
- Approximately **8 years owning and operating the transportation business**, including approximately **4 years personally driving**.
- OTR commercial transportation experience.
- Operated commercial vehicles including semi tractors and box trucks.
- Experience with manual-transmission commercial equipment, including a **13-speed Peterbilt**.
- Performed daily pre-trip and post-trip inspections.
- Mechanically inclined with practical understanding of commercial vehicle systems, maintenance requirements, and troubleshooting, while not functioning as a licensed mechanic.
- Experience with **26-foot box-truck operations and white-glove appliance delivery**.
- Former Amazon Relay carrier experience and X endorsement.

- Worked extended periods away from home and operated independently in demanding transportation environments.
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EDUCATIONAL / EARLIER EXPERIENCE

TEACHER'S AIDE / LONG-TERM SUBSTITUTE

Sinclair Elementary & Heritage Middle School | 2009 – 2012

- Supported classroom instruction, student activities, educational materials, and daily school operations.
 - Adapted to different instructional environments and age groups.
 - Assisted teachers with classroom management and student support.
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TECHNICAL SKILLS INVENTORY

LABORATORY & RESEARCH

- Laboratory research support
- Experimental setup
- Sample preparation
- Device preparation
- Materials preparation
- Materials characterization
- Failure analysis
- Hardness testing
- Chemical testing
- Thermal testing
- Vacuum deposition
- Thin-film processing
- Vacuum-system operation
- Data collection
- Raw-data organization
- Laboratory notebooks
- Experimental documentation
- Test-fixture assembly
- Prototype sensor testing
- Equipment troubleshooting

- Equipment calibration checks
- Consumables management
- Laboratory inventory
- Chemical/material inventory
- SOP development
- QA/QC
- Laboratory safety
- Chemical handling
- Contamination control

VACUUM & DEPOSITION TECHNOLOGY

- Thermal evaporation
- Electron-beam evaporation
- PECVD
- Vacuum chambers
- Roughing pumps
- Turbomolecular pumps
- Cryopumps
- Thermocouple gauges
- Ionization gauges
- Quartz-crystal microbalance (QCM)
- Vacuum leak detection
- Helium leak detectors
- Vacuum seals/flanges
- Shadow masks
- Wafer/substrate carriers
- Plasma cleaning
- Plasma ashing
- Ultrasonic cleaning
- Vacuum-compatible tooling
- Torque-controlled assembly

INSTRUMENTATION & METROLOGY

- Sensor installation
- Sensor configuration
- Sensor calibration
- Calibration verification
- Baseline measurement
- Signal verification
- Instrument troubleshooting
- Parameter adjustment

- Data acquisition
- Field instrumentation
- Environmental instrumentation
- Electrical measurement
- Temperature measurement
- Pressure measurement
- Humidity measurement
- Radiation measurement
- Flow measurement
- Electromagnetic sensing
- Dielectric sensing
- Multiphase sensing
- Capacitive sensing
- FDR
- TDR
- Inclinometers
- Gamma-ray attenuation
- Cosmic-ray neutron sensing
- GPR
- Fiber-optic sensing
- DAS / DFOS
- Optical/multispectral sensing
- Thermal sensing
- SWIR sensing
- Air-quality instrumentation
- Gas sampling

INDUSTRIAL AUTOMATION & CONTROLS

- SCADA
- Industrial sensors
- Automation loops
- PLC systems
- DirectLOGIC
- AutomationDirect Productivity Series
- ProductivitySuite
- Siemens SIMATIC S7-1200
- Siemens SIMATIC S7-1500
- TIA Portal
- Sensor integration
- PLC configuration
- Field commissioning
- Controls troubleshooting

- Data acquisition
- Instrumentation wiring
- Basic electronics
- Prototype electronics
- Sensor cabling

PROGRAMMING & COMPUTING

- Python
- C
- C++
- Ruby
- React — basic
- Data analysis
- Technical computing
- Automation/programming
- Computer-based instrumentation
- Data logging
- Digital documentation

MATERIALS & MECHANICAL TESTING

- Metals
- Polymers
- Composites
- Engineered materials
- Failure analysis
- Hardness testing
- Chemical testing
- Thermal testing
- Sample preparation
- Crushing
- Grinding
- Sieving
- Molding
- Dimensional measurement
- Universal testing machines
- Calipers
- Micrometers
- Analytical balances
- Heavy-capacity scales
- Ovens
- Muffle furnaces

- Sieve shakers

FIELD / ENVIRONMENTAL TECHNOLOGY

- Environmental sensor networks
- Agricultural instrumentation
- Soil-monitoring systems
- Remote sensing
- Field calibration
- Environmental monitoring
- Air-quality monitoring
- Atmospheric measurements
- Soil measurements
- Water/flow measurement
- Weather instrumentation
- UAV sensor payloads
- GPR
- Electromagnetic surveying
- Remote field instrumentation
- Federal-land field operations
- Industrial-site instrumentation

EQUIPMENT / TOOLS

- Multimeters
- Loop calibrators
- Pressure calibrators
- Temperature references
- Signal generators
- Data loggers
- Handheld data-acquisition systems
- Fiber tools
- Hand tools
- Torque wrenches
- Vacuum hardware
- Laboratory cleaning equipment
- Precision measurement tools
- Laptops/tablets
- Sensor test equipment
- Calibration standards

TECHNICAL OPERATIONS

- Equipment maintenance
- Preventive maintenance
- Troubleshooting
- Calibration
- Inventory management
- Spare-parts management
- Equipment tracking
- Material coordination
- Vendor coordination
- Field scheduling
- Route planning
- Site coordination
- Resource planning
- Documentation
- SOP development
- QA/QC
- Safety compliance
- PPE
- Remote-site operations
- Project coordination

TECHNICAL WRITING & RESEARCH

Approximately nine years of technical and research-oriented writing experience, including:

- Grant proposals
- Feasibility studies
- Risk assessments
- Technical marketing
- Technical documentation
- Release notes
- Knowledge articles
- Research reports
- Product reviews
- Technical articles
- Research analysis
- Ghostwriting
- Technical communication

Published/contributed work associated with outlets including **O'Reilly**, **MakeUseOf**, **Hackernoon**, and **TheGrio**, along with ghostwriting for numerous YouTube channels.

BUSINESS / LOGISTICS / SUPPLY-CHAIN EXPERIENCE

- Commercial transportation operations
 - Fleet operations
 - Equipment acquisition
 - Equipment maintenance coordination
 - Route planning
 - Dispatch coordination
 - Driver coordination
 - Shipment tracking
 - Package tracking
 - Sensor/equipment logistics
 - Inventory control
 - Spare-parts coordination
 - Vendor management
 - Service-provider coordination
 - Scheduling
 - Compliance documentation
 - Operational recordkeeping
 - Field resource management
 - Equipment movement
 - Materials coordination
 - Procurement-related coordination
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ENGINEERING & TECHNICAL STRENGTHS

- Applied mathematics
- Technical problem solving
- Engineering fundamentals
- Instrumentation
- Controls
- Sensor systems
- Materials science
- Laboratory operations

- Experimental methods
 - Measurement science
 - Metrology
 - Data collection
 - Technical documentation
 - Mechanical aptitude
 - Electrical/electronic troubleshooting
 - Systems thinking
 - Rapid technical learning
 - Independent field work
 - Cross-disciplinary technical work
 - Research support
 - Project coordination
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EDUCATION

SAN ANTONIO COLLEGE

Associate of Applied Science — Engineering

2026

Engineering education emphasizing applied technical knowledge, mathematics, problem solving, and engineering fundamentals.

TARGET PROFESSIONAL AREAS

- Research Laboratory Technician
- R&D Laboratory Technician
- Engineering Technician
- Materials Laboratory Technician
- Materials Testing Technician
- Failure Analysis Technician
- Metrology Technician
- Calibration Technician
- Instrumentation Technician
- Instrumentation & Controls Technician
- Automation Technician

- Controls Technician
 - Environmental Field Technician
 - Environmental Instrumentation Technician
 - Manufacturing Technician
 - Process Technician
 - Test Technician
 - Field Service Technician
 - Technical Specialist
 - Research Support Technician
 - Laboratory Equipment Technician
 - Sensor Systems Technician
 - Engineering Laboratory Assistant / Technician
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MASTER EQUIPMENT & TECHNOLOGY INDEX

Vacuum: thermal evaporators, e-beam evaporators, PECVD, roughing pumps, turbomolecular pumps, cryopumps, thermocouple gauges, ion gauges, QCM, helium leak detectors, vacuum chambers, shadow masks, wafer/substrate carriers.

Laboratory: ultrasonic cleaners, plasma cleaners/ashers, sample-preparation equipment, analytical balances, heavy scales, ovens, muffle furnaces, sieve shakers, jaw crushers, grinders, precision molds, UTMs, calipers, micrometers.

Instrumentation: multimeters, loop calibrators, pressure calibrators, temperature references, signal generators, data loggers, handheld DAQ systems, fiber tools, environmental sensors, gas analyzers/sampling systems.

Sensors: dielectric, spectroscopic, electromagnetic, capacitive, FDR, TDR, multiphase, ultrasonic, MEMS, DAS, DFOS, inclinometer, gamma attenuation, cosmic-ray neutron, GPR, multispectral, thermal, SWIR, wind, temperature, humidity, solar radiation, precipitation, O₃, SO₂, carbon, NO₂ and related environmental sensors.

Controls: SCADA, DirectLOGIC, AutomationDirect Productivity Series, ProductivitySuite, Siemens S7-1200, Siemens S7-1500, TIA Portal.

Programming: Python, C, C++, Ruby, basic React.

Operations: commercial vehicles, fleet equipment, logistics systems, shipment/package tracking, inventory systems, maintenance coordination, route planning, field equipment management.

CORE PROFESSIONAL VALUE

A multidisciplinary technical background combining **laboratory science, materials testing, vacuum technology, instrumentation, metrology, automation, environmental sensing, field engineering, programming, logistics, and hands-on equipment operation**. Experienced moving between laboratory and field environments and translating engineering requirements into practical hands-on work involving instruments, sensors, materials, equipment, data, and technical documentation.