



Causey Engineering
LLC

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Causey Engineering LLC

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Curriculum Vitae

DOUGLAS E. MILES, BSME



Mr. Miles is an Associate of Causey Engineering LLC. Causey Engineering has for over 18 years been providing forensic and investigative engineering services and litigation support, specializing in industrial, utility and construction issues. Mr. Miles has particular experience in the field of mechanical automation and design in the manufacturing, machine tool, aerospace and semi-conductor industries.

Education:

University of Illinois, Urbana
BS Mechanical Engineering, 1987

Illinois College, Jacksonville
BA Pre-Engineering

Work Experience:

Causey Engineering LLC, Austin, TX 2006 to Present

Forensic Expert: Provide Forensic and investigative work related to mechanical automation and design. Causey Engineering provides engineering analysis, governmental regulation investigation and research, accident reconstruction and litigation support primarily related to refineries, pulp and paper mills, industrial construction, lumber manufacturing, chemical and petrochem plants, central power stations, electronic manufacturing and warehousing.

DESIGN RIGHT INC. - Arlington, TX – From 2002 to Present

Vice President of Engineering and Comptroller: Partner in privately held designer & builder of custom machinery. Provides innovative mechanical automation, robotics, motion controls, material handling & test systems for the aerospace, construction & machine-tool industries.

- System design – Developed & integrated flexible manufacturing & test solutions from sales concept through to on-going support of complex automated systems at various facilities around the country performing in multi-shift operations.

- Comptroller – Provided all accounting services for business (A/P, A/R, payroll, project cost-accounting, procurement, etc.)
- Technologies utilized included Mechanical Desktop/AutoCAD, SolidWorks, MS Project/Excel/Word, precision machining, sheet metal, welding, pneumatics, servo & variable frequency motors, PC-based industrial controls & touch-screen operator interfaces, sensors & safety systems.

M. E. DESIGN - Austin, TX From 1996 to 1998, and from 2001 - 2002

Owner/Principal: Mechanical design and prototype consulting service. Specialized in contracted 3-D CAD for product and tool design in electronics, semi-conductor, medical, machine tool, instruments, and oil & gas exploration industries. Sole proprietor.

- Product and machine design – Provided conceptual and final 3-D CAD models, 2-D CAD fabrication and assembly drawings, bills of materials, customer interfacing and design reviews, assembly and calibration process development, system integration, sourcing evaluation/selection and procurement services. Maintained independent and complete project documentation for clients.
- Technologies utilized included Mechanical Desktop/AutoCAD, MS Project/Excel/Word, precision machining, sheet metal, welding, roll-forming, pneumatics, hydraulics, precision linear ways, stepper & servo motors, PC-based industrial controls, thermal & environmental control, radiation shielding & safety systems.

SYMTX, Inc. - Austin, TX, From 1998 t 2001

Privately held leading manufacturer of custom test systems for the electronics industry with multiple sites in USA and Mexico.

Senior Project Engineer:

- Design of high precision automated test equipment and fixtures – Provided conceptual and final 3-D CAD models, 2-D CAD fabrication and assembly drawings, bills of materials, customer interfacing and design reviews, assembly and calibration process development, system integration, and sourcing evaluation/selection. Worked closely with electrical engineers and software personnel. Integral member of prototype build teams.
- Sales and Systems Engineering support – Provided conceptual drawings, estimated system costs, listed major components, and developed preliminary project schedules for proposals. Presented various proposals on complex automated systems to customers.
- Engineering standards and overall business support - Assisted in developing improved standards. Developed and implemented new methods for utilizing 3-D CAD data to improve design accuracy, clarified customer design reviews and sales pitches, and significantly reduced component rework costs and time.
- Technologies utilized included Mechanical Desktop/AutoCAD, MS Project/Excel/Word, precision machining, sheet metal, pneumatics, accurate thermal/environmental control, precision linear ways, RF testing, bar coding, stepper & servo motors, robotics (up to 9-axes) and safety systems.

Scientific Measurement Systems, Inc. – Austin, TX From 1993 to 1996

Publicly held manufacturer of custom industrial X-ray inspection systems (CAT-scanners) for defense, automotive, petroleum and aerospace industries.

Operations Manager/Chief Engineer: 1995 - 1996

- Manufacturing management – Company-wide resource loading/scheduling, worked closely with procurement and finance to complete projects during acute cash-flow crises, brought in and coordinated contracted design and assembly help to

concurrently complete multiple projects to meet extremely tight schedules. Coordinated with field service to insure timely installs and to meet existing contractual preventative maintenance obligations.

- Sales support – Met with customers to develop specifications and performance parameters. Developed conceptual drawings, estimated system costs, listed major components, developed preliminary project schedules for proposals.
- Technologies utilized included AutoCAD, MS Excel/Word, Timeline, precision machining, sheet metal, EDM, pneumatics, thermal control, precision linear ways, stepper & servo motors, optics, radiation shielding & safety systems.

Project Engineer: 1993 - 1994

- Product design – Developed new, lower (half) cost system for NASA in half the time normally required due to implementation of 3-D CAD methods, design for assembly techniques, and close partnering with new suppliers.

Marshall Gas Controls – San Marcos, TX From 1994 to 1995

Privately held manufacturer of propane gas regulators, hoses and assemblies for gas grill and RV markets with multiple sites in USA and Mexico.

Manufacturing Engineer:

- Production support –Reducing non-value added product handling in multiple production lines. Developed and implemented accuracy and reliability of test systems. Trained operators on equipment, and to recognize component & process discrepancies. Instilled operator ownership of their work cells with authority to shut line down for problems/negative failure trends.
- Maintenance enhancements - Replaced older proprietary PLC systems with latest technology PC-based control systems. Reduced downtime and product changeover times. Improved system error messaging, improved flexibility and expandability for future products, and made production data/system status accessible over the network. Provided training to existing and promoted technicians. Improved system support of the new systems. Reduced bottlenecks. Developed equipment User's/Troubleshooter's Manuals. Assisted with implementation of maintenance component database to insure availability of critical tooling and maintenance supplies.
- Technologies utilized included AutoCAD, ARIES, MS Excel/Word, Timeline, precision machining, sheet metal, pneumatics, hydraulics, pressure sensors and leak testing, crimping, precision linear ways, industrial controls, machine interfacing, product failure analysis, material handling & safety systems.

Staktek Corp. – Austin, TX From 1992 to 1993

Privately held manufacturer of high-density memory products for commercial electronics and aerospace industries.

Mechanical Engineer:

- Developed precision tooling, processes and plans to scale up production from existing 8 units/day to 200/hr, then to 2000/hr.

Tandy Electronics, Manufacturing Technology Center Division - Fort Worth, TX

From 1990 to 1992

Publicly held manufacturer and retailer of commercial electronics, concentrating in PC's, wire & cable, and packaging.

Mechanical Engineer:

- Corporate research and development – Identified key common corporate technologies that offered highest return on investment for corporation as a whole

and established partnerships with vendors who offered best price/performance in those areas. In depth investigation into material handling systems, industrial controls, bar coding and pneumatic systems.

- Automated test system design – Developed with software/electrical team, concept through to production integration on factory floor, a robotic and automated material handling system capable of full functional test of PC's, laptops and servers. Also developed cost-effective systems for keyboard life testing, robotic packaging, power supply burn-in, and heavy box handling.
- Technologies utilized included AutoCAD, MS Excel/Word, Timeline, precision machining, sheet metal, pneumatics, vacuum, hydraulics, precision linear ways, robotics, machine interfacing, product failure analysis and safety systems.

General Dynamics, Fort Worth Division – Fort Worth, TX From 1987 to 1990
Publicly held aerospace manufacturer concentrating on tactical aircraft for the defense industries.

Manufacturing Technology Engineer: - 1989 - 1990

- Improved throughput of robotic work cell (electrical connector assembly) 400% by improving user interface, tooling and end effector to reduce feed jams/down time, provided operator training and instilled sense of ownership of work cell.
- Flexible tooling design – Developed prototype tooling to handle family of F-16 parts for presentation in automated riveting cell.
- Technologies utilized included CADAM, CATIA, MS Excel/Word, precision machining, sheet metal, pneumatics, precision linear ways, industrial controls, machine interfacing, robotics, TQM, material handling and safety systems.

Facility Engineer: 1987 - 1989

- Ventilation design – Completed complex system design to correct air quality issue in Chemical Process building.
- Wastewater treatment system – Designed and implemented new system to remove heavy metals from process liquids.
- Safety systems – Conducted monthly boiler safety inspections and supported maintenance staff during shutdowns.

Professional Memberships:

SME Society of Manufacturing Engineers, 1995 – Present.

Austin Chapter # 211: Chairman ('99), Chairman-Elect ('98), Treasurer ('97).

North Texas Chapter # 051: Treasurer ('04-'06), Program Chairman ('02-'04).

ASME American Society of Mechanical Engineers.

Student Chapter – University of Illinois, President ('86).

Use of this CV is prohibited until we have a mutually signed agreement concerning your engagement of Causey Engineering LLC. Pending such, the use of our name is also prohibited, and we reserve the right to accept assignment by others in lieu of your firm.