

Professional Resume
of
BENJAMIN L. FISCHER, P. E.

September 2024

I. General Information

Mechanical Engineer
Schaefer Engineering, Inc.
Wentzville, Missouri

II. Professional Summary

A. Education:

Bachelor of Science
Mechanical Engineering
Missouri University of Science and Technology
Rolla, Missouri
2007

Master's Degree
Business Administration
Columbia College
Jefferson City, Missouri
2011

B. Experience:

September 2017 to present
Position: Mechanical Engineer
Schaefer Engineering, Inc.
Wentzville, Missouri

Responsible for a wide range of engineering projects including but not limited to: construction and agricultural heavy equipment failure and fire analysis, residential and commercial solar system fire, shock/electrocution and failure analysis, industrial equipment accidents, vehicular systems failure analysis, vehicle fire investigations, residential and commercial fire origin and cause analysis, commercial accident investigation, explosion investigation, electrocution, water infiltration, carbon monoxide, and accident reconstruction.

Experience (continued):

Jan 2013 to present

Position: Owner/Principal Engineer/Installation Manager
Fischer Solar LLC
Solar/Electrical Contractor
Marthasville, MO

Responsible for all aspects of system design engineering, equipment selection, permitting, and installation of photovoltaic electrical PV solar systems for residential and commercial solar installations covering grid-tied, hybrid, and battery storage installations. Designed and built lithium and lead based battery packs from the cell-level up for use in mobile vehicles and stationary power backup. Installed both new electric services and integrated systems with existing building services in both residential and commercial systems. Performed field inspections, diagnostic, and repair services for residential and commercial systems covering most major solar panel and inverter manufacturers. Developed and distributed PC based software to monitor Zigbee communication based solar inverters when the manufacturer's system failed.

April 2011 to September 2017

Position: Lead Engineer / Research & Development
WEG
Washington, Missouri

Responsible for mechanical and electrical design and analysis of next generation product lines for electrical utility low/medium/high voltage systems. Provided technical support for facility manufacturing and safety operations. Redesigned existing product mechanical and electrical aspects for improved safety, reduced cost, and better performance with a focus on renewable energy products such as wind turbine and solar photovoltaic power transformers. Designed integrated high amperage LV (480-690VAC) breaker systems and high amperage (1600A+) buswork, as well as supported electrical controls design. Worked directly with client engineers in commercial/industrial, and renewable energy fields to develop products for integration and operation of large utility scale solar and wind farms in both electrical and mechanical aspects. Ensured product and performance compliance with applicable IEEE/ANSI/ASTM/UL, and ISO standards. Provided technical diagnostic and repair support to field service teams and clients. Developed PC based software to automate custom drawings development for clients.

June 2007 to April 2011

Position: Mechanical Engineer / Special Projects / Process Engineer
ABB Inc
Jefferson City, MO

Responsible for developing automated machinery such as PLC controlled autonomous cart delivery systems, lifts, and ergonomically designed power-assist vehicles to improve safety of processes and reduce injury rates. Managed multi-million dollar facilities development projects involving overhauling and upgrading older equipment lines, development, specification, and installation of new manufacturing lines, and installation of large industrial manufacturing equipment. Provided process engineering and design engineering support for distribution class liquid filled electrical transformers. Designed and implemented several machine safety and machine guarding systems. Led a number of

kaizen and lean manufacturing projects related to 5S, safe and efficient work station design to facilitate ergonomic work systems, and mistake-proofing assembly to improve product quality. Traveled domestically and internationally to evaluate a wide variety of manufacturing facilities in differing industries to study best practices and manufacturing excellence.

III. Professional Registration

Registered Professional Engineer (PE) in the States of Missouri, Illinois, Iowa, Kansas, & Arkansas
MO Registered Safety Consultant
FAA Part 107 Certified sUAS remote drone pilot
NAFI Certified Fire and Explosion Investigator (CFEI)
NAFI Certified Vehicle Fire Investigator (CVFI)
Enphase Certified Solar Installer

IV. Professional Affiliations

American Society of Mechanical Engineers (ASME)
National Fire Protection Association (NFPA)
National Association of Fire Investigators (NAFI)
International Association of Arson Investigators (IAAI)
Society of Automotive Engineers (SAE)

V. Continuing Education

2023 – Fall Protection Training

2023 – IAAI 2023 Conference - Peoria, IL Bits, Bytes, Flights, and More

2023 - JS Held Webinar Cell Phone Data Collection and Data Retrieval

2022 - IAAI CFITrainer Electric & Hybrid Vehicle Design Basics

2022 - IAAI - Peoria, IL Damage Dynamics

2022 - IAAI - Peoria, IL 2021 Recent Changes in NFPA 921 and 1033

2021 - Online-PDH Ethics in Professional Practice (Mark Rossow, PhD, PE)

2021 - FAA Safety Team Aviation Learning Center Part 107 Small Uas Recurrent

2021 - IAAI CFITrainer Investigating Motor Vehicle Fires

2021 - IAAI CFITrainer Motor Vehicles, The Engine and the Ignition, Electrical and Fuel Systems

2021 - IAAI CFITrainer Motor Vehicles, Transmission, Exhaust, Brake, and Accessory Systems

2021 - Safety Training Resources, LLC, Wentzville, MO Telehandler Operation (Classroom & Practical Skills)

2021 - RedVector Anti-Harassment Training for All Employees

2021 - NABCEP Online Training Enphase Solar Installation Certification Training

2021 - NFPA Online Training NFPA 25 - Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems (2020) Online Training Series

2021 - Wentzville, MO "Asbestos Operations & Maintenance 4-hour Refresher Course"

2021 - NFPA Online Training NFPA 13 - Standard for the Installation of Sprinkler Systems Online Training Series

2021 - Fronius Online Solar Safety Systems and NEC compliance "SunSpec Makes PV Shutdown Easy"

2020 - Wentzville, MO "Asbestos Operations & Maintenance 4-hour Refresher Course"

2019 - NAFI - Lexington, KY Vehicle Fire Investigation Training Program

2019 - MO IAAI - Springfield, MO Fire Prevention & Investigation Seminar - "Introduction to Materials and Metallurgy" (Aaron Barklage, P.E.)

2019 - MO IAAI - Springfield, MO Fire Prevention & Investigation Seminar - "Electrical Appliance and Device Fires" (Rob Markiewicz, P.E.)

2019 - MO IAAI - Springfield, MO Fire Prevention & Investigation Seminar - "Bits, Bytes, Flights and More: New Technology for the Fire Investigator" (Todd Metzger, P.E.)

2019 - MO IAAI - Springfield, MO Fire Prevention & Investigation Seminar - "Explosives Investigations" (Pat Carolan, FBI)

2019 - IAAI - Peoria, IL Fire Prevention & Investigation Seminar - "Electricity and Fire"

2019 - IAAI - Peoria, IL Fire Prevention & Investigation Seminar - "Creating an Effective CV"

2019 - IAAI - Peoria, IL Fire Prevention & Investigation Seminar - "Conducting your investigation for the Courtroom"

2019 - IAAI - Peoria, IL Fire Prevention & Investigation Seminar - "Putting it all Together"

2019 - Aerial Lift Operator Training, Safety Training Resources – St. Charles, MO

2019 - Environmental Safety Training Center - St. Louis, MO "Asbestos Operations & Maintenance 4-hour Refresher Course"

2018 - Faro 3D Scanning Training Course – "Scan to Deliverable"

2018 - IAAI - Champaign, IL Fire Prevention & Investigation Seminar - "Fire Dynamics and the Fire Scene"

2018 - IAAI - Champaign, IL Fire Prevention & Investigation Seminar - "Origin and Cause"

- 2018 - IAAI - Swansea, IL Fire Prevention & Investigation Seminar - "Gas Fired Appliances - How They Can And Cannot Be An Ignition Source "
- 2018 - IAAI - Swansea, IL Fire Prevention & Investigation Seminar - "Open Source Intelligence Techniques"
- 2018 - IAAI - Swansea, IL Fire Prevention & Investigation Seminar - "Passing the test: Expert testimony in MO/IL"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Electricity and Fire"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Explosion Dynamics"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Origin and Cause Determination"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Water Based Suppression Systems"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Diagramming and Scene Photography"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Evidence Collection"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Fire Pattern"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Fire Chemistry and Dynamics"
- 2018 - NAFI - Dallas, TX Fire Prevention & Investigation Seminar - "Legal Considerations"
- 2018 - IPTM / UNF - Jacksonville, FL Automotive Crash Reconstruction - "Bosch© CDR Tool Technician Training by IPTM (Online)"
- 2018 - Environmental Safety Training Center - St. Louis, MO "16 Hour Asbestos Operations & Maintenance Training"
- 2017 - Fire Findings - Benton Harbor, MI Fire Prevention & Investigation Seminar - "Investigation of Gas and Electric Appliance Fires"
- 2017 - Arkansas IAAI - Heber Springs, AR Fire Prevention & Investigation Seminar - "Lightning Related Residential Fires & CSST"
- 2017 - Arkansas IAAI - Heber Springs, AR Fire Prevention & Investigation Seminar - "NFPA 921 & 1033 Updates"
- 2017 - AIA Continuing Education - Online Education Electrical Engineering - "Power Supplies Basics"

2017 - AIA Continuing Education - Online Education Mechanical Engineering - "Pressure Vessel Guidelines"

2017 - AIA Continuing Education - Webinar Forensic Engineering - "Forensic Engineering"

2017 - AIA Continuing Education - Online Education Electrical Engineering - "Basic Electrical Theory"

VI. Courses Taught

Solar and Battery Storage Systems – April, 2023
Arkansas – IAAI Conference, Heber Springs, AR

Solar and Battery Storage Systems – February, 2023
Illinois – IAAI CIFIA Conference, Peoria, IL

Introduction to Residential Solar Systems – May, 2019
Missouri – IAAI Conference, Springfield, MO