



Tim Leung, P. Eng., B. Eng. Mgt.

Mechanical Engineer

Contact

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Education

McMASTER UNIVERSITY, ON

2002 - 2008

Bachelor of Engineering and Management

Experience

ROAR ENGINEERING
Mechanical Engineer

2026– PRESENT

ENVISTA FORENSICS, MISSISSAUGA
Senior Project Engineer

2017 - 2026

Completed equipment breakdown investigations to determine failure causes.

Provided timely cost consulting for large insurance losses involving fire, soot and water contamination.

Actively engaged with other engineering disciplines and assisted with investigations both with colleagues in the home office and abroad.

Authored detailed reports for insurance adjusters and for litigation.

Developed organizational systems to improve efficiency of workflow for colleagues to increase productivity.

SIEMENS ENERGY, OAKVILLE
Senior Field Service Engineer

2008 – 2017

Provided technical field assistance for generator, large gas and steam turbine overhauls at over 20 sites across 7 countries.

Demonstrated leadership through supervision of up to 40 people consisting of multiple trades and crafts during overhauls.



Used organizational skills to coordinate various resources and manpower on site.

Utilized analytical skills on collected data to formulate repair procedures of gas turbine components in real-time.

Applied versatile communication skills to convey information between customers and off-site support engineers.

Collaborated on professional, technical reports, daily status reports and troubleshooting reports.

Mentored Engineers in Training to expand the department level of competence.

SIEMENS POWER GENERATION, HAMILTON
Product Manufacturing Support Student

2006 – 2007

Assisted Lean Manufacturing Team with Six Sigma projects.

Participated in root cause analysis investigations.

Developed and maintained tracking system for team members' KPIs.

PROFESSIONAL AFFILIATIONS

Professional Engineers of Ontario (PEO).

Association of Professional Engineers and Geoscientists of Alberta (APEGA).

SUMMARY OF PROFESSIONAL STRENGTHS

Installation and maintenance of utility level electric generating power plants.

Residential and Commercial HVAC and plumbing Systems Projects.

Management of Complex Mechanical Equipment.

Gas and Steam Turbines, Power Generators, High-Speed Gearboxes and Auxiliary Equipment.

Repair/replace cost analysis of mechanical equipment: pumps, motors, presses.

Non-Destructive Testing Techniques.

Industrial Machinery.

ADDITIONAL TRAINING

Power Quality Issues: Common Types and Damage Patterns, 2026.

Power Transformer Failures and How to Investigate Them, 2026.

Dry Pipe Sprinkler System Design and Common Failures, 2025.

Commercial and Industrial Well Pump Failures, 2025.



Heat Pumps for Heating and Cooling, 2025.

Material Failure Analysis: Scanning Electron Microscopy, 2025.

Investigating Crane Failures, 2025.

Deposition Training for Engineering Experts, 2025.

Advanced Battery Forensics: Common Defects, 2025.

Power Distribution: From Substation to Switchgear, 2025.

VAR Methods and Techniques for Forensic Engineers, 2025.

Advanced Battery Forensics: Interpreting the Tea Leaves, 2025.

Advanced Topics in HVAC Failures: Chillers and Cooling Towers, 2025.

Material Analysis: Brass Failures and the Typical Joint Materials Exam, 2025.

Investigating Wind Turbine Failures, 2025.

Wet Pipe Fire Protection Systems, 2025.

Welding Design and Metal Fatigue for Structural Engineering, 2024.

Solar Panel Operation and Common Failure Modes, 2024.

Arcing vs. Melting: Analyzing Evidence in Electrical Fire Cases, 2024.

Root Cause of Engineering Failures: Looking at the Big Picture, 2024.

Fire Protection Failures, 2024.

Product Liability: Types of Defects and the Expert Engineer's Role, 2023.

Polymer Failures in Plumbing Applications, 2023.

Ins and Outs of Battery Failures. 2023.

Plumbing Systems Design for Multi-Residential, Commercial, Industrial and Institutional Buildings, 2023.

Decoding Mechanical Failures, 2022.

CFI Trainer - Residential Natural Gas Systems, 2021.

CFI Trainer - Explosion Dynamics, 2021.

CFI Trainer - Motor Vehicle Systems, 2021.

CFI Trainer - Investigating Motor Vehicle Fires, 2021.

CFI Trainer - Electric & Hybrid Vehicle Design Basics, 2021.

CFI Trainer - Electric & Hybrid Vehicle Fires, 2021.

CFI Trainer - Introduction to Appliances, 2021.



CFI Trainer - Electric & Hybrid Vehicle Design Basics, 2021.

CFI Trainer - The Scientific Method for Fire and Explosion Investigation, 2021.

CFI Trainer - Fire Chemistry, 2021.

CFI Trainer - Fire Flow Path, 2021.

CFI Trainer - Fire Protection Systems, 2021.

CFI Trainer - Critical Thinking Solving Cases, 2021.

NFPA 921 - Guide for Fire and Explosion Investigations, 2021.

NFPA 25 - Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2021.

Lochnivar University - Basic Knowledge I, 2020.

CT/PET Basics, 2020.

Evaluating Refrigeration Systems: Troubleshooting, 2020.

General Procedures for Failure Analysis, 2020.

Wear Failures, 2020.

HVACR Fundamentals for Techs, 2018.

HVACR Electrical Troubleshooting, 2018.

Advanced Strategies for Investigating HVAC Failures, 2018.

Ductile and Brittle Failures, 2018.

Digital Forensics and Equipment Damage Consulting Overview, 2018.

Introduction to Equipment Restoration, 2018.

Wipe Sample Collection Process, 2018.

Spoliation of Evidence, 2018.

Fire Sprinkler System Claims, 2018.

REPRESENTATIVE PROJECT EXPERIENCE

Provided forensic analysis of the following:

Failures of piping made of copper, PEX, PVC, and CPVC,

Valve failures,

Sump pumps,

Commercial property HVAC equipment failures,

High-rise building plumbing, heating, cooling and sprinkler issues.

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Consulted on subrogation claims involving:

Commercial businesses mechanical equipment and infrastructure installation quality,
Failure analysis of domestic water systems and components,
Cause assessments of losses involving construction and/or maintenance vendors,
Heat pump failures,
Sprinkler system failures,
HVAC failures.

Provided damage assessments for the following:

Industrial level gas turbine used for steam and power generation,
Rooftop air handling units, water-loss related,
Industrial dust collector unit due to fire, analysis of repair/replacement recommendations,
Mechanical room equipment (pumps and motors) due to water damage,
Printing shop equipment due to mechanical damage,
Mobile crane slew bearing,
Optical lab equipment due to water damage,
Server equipment due to water damage,
Electronic equipment due to lightning damage,
Industrial wood processing equipment due to fire damage.

Provided replacement cost analysis for the following:

Pumps and motors,
Heat exchangers,
Laboratory equipment – optical tables, spectrum analyzers,
Water main repairs,
Sawmill equipment,
Heavy machinery and mobile equipment,
Commercial refrigeration equipment.

Assisted numerous senior and junior consultants in various disciplines related to vehicle fires origin and cause, soot and water contamination analysis, electrical losses and materials analysis.

