



## Avery Kartes, P.Eng., CFEI, CVFI, WETT

Fire Investigations Engineer

### Contact

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## Education

**UNIVERSITY OF OTTAWA, ONTARIO**

**2008 - 2013**

Bachelor of Applied Sciences, Biomedical Mechanical Engineering

## Experience

**ROAR ENGINEERING**

Fire Investigations Engineer

**2025– PRESENT**

**BOLD ENGINEERING, OTTAWA**

Mechanical Engineer

**2024 - 2025**

Prepared technical specifications and drawings.

Completed energy and water audits.

Developed tender and contract documents.

Performed on site analysis of mechanical systems.

Typical projects included renovations and restorations of commercial and institutional buildings.

**EFI GLOBAL CANADA INC., OTTAWA**

Forensic Engineer, Fire Investigator

**2022 - 2023**

Investigated the origin and cause of structural and vehicle fires, as well as vehicle collision and water damage claims.

Completed examinations and failure analyses of residential, commercial, institutional and industrial buildings, in addition to passenger vehicles, heavy trucks, agricultural tractors, electrical equipment, electronics, plumbing components, and appliances.

Completed environmental testing to determine the extent of damage and develops remediation and restoration plans as they relate to fire, smoke, water, asbestos, lead and mold growth.



### **Key Accomplishments:**

Developed and continues to grow a significant client and market base within the Ottawa region.

Recovered vehicle data from vehicle modules, such as the airbag module or the infotainment module.

Assisted in CAT Relief efforts from Hurricane Ian in 2022.

Occupational Health and Safety Officer for the region.

**CEP FORENSIC INC., OTTAWA**  
Forensic Engineer, Fire Investigator

**2020 - 2022**

Investigated the origin and cause of structural and vehicle fires, as well as water damage claims.

Completed examinations and failure analyses of passenger vehicles, heavy trucks, agricultural tractors, electrical equipment, electronics, plumbing components, and residential appliances.

### **Key Accomplishments:**

Created and presented two national webinars on topics related to fire investigation and insurance fraud.

Handled technically complex files for the Ottawa office, as they relate to vehicle failures, collisions, material failures and building system failures.

Driven to expand market share and further develop relationships with pre-existing and new clientele by utilizing sales and business development fundamentals.

**ORIGIN and CAUSE INC., DARTMOUTH, NS**  
Forensic Engineer, Fire Investigator

**2017 - 2020**

Investigated the origin and cause of structural and vehicle fires, as well as water damage claims.

Handled technically complex files for the Ottawa office, as they relate to vehicle failures, collisions, material failures and building system failures.

Completed examinations and failure analyses of passenger vehicles, heavy trucks, agricultural tractors, electrical equipment, electronics, plumbing components, and residential appliances.

### **Key Accomplishments:**

Created and presented two national webinars on topics related to fire investigation and insurance fraud.

Handled technically complex files for the Ottawa office, as they relate to vehicle failures, collisions, material failures and building system failures.

Expanded market share and further developed relationships with pre-existing and new clientele by utilizing sales and business development fundamentals.



**EFFICIENCY NOVA SCOTIA, DARTMOUTH, NS**  
Technical Specialist, Efficiency Specialist

**2016 – 2017**

Created and managed the Building Optimization Program; a custom utility program that provides funding towards energy efficient commissioning projects in existing commercial, industrial and institutional buildings in Nova Scotia.

Recruited and maintained a group of engineering consultants and contractors to provide services for the program.

Worked with building owners to help them meet their sustainability and operational objectives.

Developed tools and guides to assist customers and service providers with the commissioning process, including calculators to estimate energy savings, toolbox kits to help develop scopes of work, and measurement and verification guidelines.

**Key Accomplishments:**

Redeveloped an existing building commissioning program in order to increase program uptake. The new program generated over triple the amount of initiated projects, as well as qualified service providers, compared to the pre-existing program.

Participated in the CSA Group Technical Subcommittee which co-authored Z5000-18, a national standard for new building commissioning that was published in 2018.

**JOHNSON CONTROLS, BEDFORD, NS**  
Account Representative

**2015 – 2016**

Facilitated sales, assisted with design, and provided both technical and business support for contractors and building owners in the Maritime region for offerings such as building services, HVAC systems, building automation systems, security and fire systems, and building retrofits.

Upgraded and optimized existing and new facilities to allow building owners to achieve their business objectives and reduce operating costs.

**Key Accomplishments:**

Wrote estimates, proposals and bid packages for commercial systems over \$250k in value.

Expanded security systems customer base to include hospitals, institutions, banks and education markets.

**TRANE, DARTMOUTH, NS**  
Account Manager

**2014 – 2015**

Prospected and managed an account base of building owners, operations staff, property managers, and developers to provide HVAC and Building Automation Systems service, equipment and contracting solutions.

Estimated risk, contingency, materials, labour, and warranty costs for construction and service projects.



### **Key Accomplishments:**

Effectively managed small to medium sized service and construction projects, reducing costs, maximizing profits, and achieving desirable completion times.

Increased revenue from the SPX Technologies' parts line by 2400% in one year.

Modeled new and existing HVAC systems with design and analysis software to identify, design and measure energy conservation strategies.

**OTTAWA PUBLIC HEALTH, CITY OF OTTAWA, ON**  
Youth Facilitator

**2008 – 2013**

Conducted presentations at public schools, community events, and conferences and led training workshops for high school and post-secondary school students to address health issues in the community.

Designed graphics for municipal and provincial health promotion campaigns.

### **Key Accomplishments:**

Co-founded Freeze the Industry, a national youth-led advocacy campaign.

Represented Ottawa Public Health as a Speaker at the National Conference on Tobacco or Health.

## **Professional Development**

Trane Graduate Training Program, 2014, Trane, La Crosse, Wisconsin, USA

Vehicle Fire Investigation Training Program, 2019, NAFI, Lexington, Kentucky, USA

Investigating Residential Dryer Fires, Residential Electricity for Fire Investigators, 2018, Fire Findings, Benton Harbor, Michigan, USA

NFPA 921 Fire and Explosion Investigator Course, 2018, International Association of Arson Investigators, Ontario Chapter, Waverley, NS

Women in SETT Leadership Workshop Program, 2015 – 2016, Mount Saint Vincent University, Halifax, NS

Sandler Sales Foundations Training, 2015, Sandler Training, Dartmouth, NS



## Professional Affiliations

|                                                                                                |                |
|------------------------------------------------------------------------------------------------|----------------|
| Professional Engineers of Ontario, Professional Engineer                                       | 2021 – Present |
| CSA Group Member                                                                               | 2016 – Present |
| Wood Energy Technology Transfer Inc. (WETT Inc.),<br>WETT Basic Site Inspector                 | 2023 – Present |
| Institute of Police Technology and Management (IPTM),<br>Certified Bosch Crash Data Technician | 2021 – Present |
| Women in Science, Engineering, Trades and Technology Leadership<br>Network                     | 2015 – Present |
| National Association of Fire Investigators                                                     | 2018 – 2024    |
| Engineers & Geoscientists New Brunswick (APEGNB)                                               | 2019 - 2022    |
| Professional Engineers & Geoscientists Newfoundland and Labrador                               | 2019 – 2022    |
| Engineers Nova Scotia                                                                          | 2018 – 2022    |
| Canadian Association of Fire Investigators                                                     | 2017 – 2020    |
| Blue Goose International Member, Nova Scotia Pond                                              | 2018 – 2020    |
| Nova Scotia Insurance Women's Association Member                                               | 2017 – 2020    |

## Publications, Awards & Distinctions

- CSA Group, Z5000-18 - Building commissioning for energy using systems, Published on Feb 20, 2018
- Engineers Nova Scotia, Pay it Forward, The Engineer, Published on Nov 1, 2018
- Most Valuable Player Award – Origin and Cause, 2018
- Top President / Entrepreneur of the Year – Junior Achievement Canada, 2008



# Volunteer

Women's Insurance Cancer Crusade (WICC), Ottawa Chapter, Volunteer, 2020 – 2023

*WICC is a national charity connected with the Insurance Industry. Their goal is to raise funds through the Insurance Industry which directly funds specific cancer research efforts through the Canadian Cancer Society.*

Dalhousie University, Public Speaker & Volunteer, 2018 – Present

*Conduct individual or panel presentations to engineering students to help provide them with support and guidance throughout their undergraduate studies.*

Junior Achievement, Public Speaker & Volunteer, 2018 – 2019

Engineers Nova Scotia– Volunteer within the Women in Engineering Committee, 2017 – Present

*A part of a subcommittee which focuses on improving working conditions for women in engineering.*

Animal Aware – Medical Treatment Volunteer, 2010

*Provided medical treatment and human company for abandoned or stray animals in Southern Guatemala.*

