Ryan Morales *M.E.Sc., EIT*

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WORK EXPERIENCE

STAFF PROFESSIONAL (ENGINEERING) SAVRON SOLUTIONS · CAMBRIDGE, ON · 2022 – PRESENT

- → Direct design contributions to all aspects of commercial combustion-based treatment systems for contaminated soils. Included combustion reactor design, process piping design, blower/pump sizing, electrical load calculations, and similar.
- → Led computational fluid dynamics and finite element analysis design efforts, determining realistic simulation parameters and domains, coordinating with modeling consultants, and reviewing results for alignment with project requirements.
- → Critical role as on-site engineering representative for all phases of system implementation (mobilization to demobilization). Overseeing subcontractors during construction, operations, heavy equipment material handling, etc. Regularly working in high-pressure and independent decision-making environments in remote locations (e.g., Alaska, Bahamas island, California desert). Accounted for ~40% of billable time over the first two years of employment.
- → Acted as technical and project management lead for an internal R&D project with timeline, costs, and billable effort constraints. The project consisted of downsizing a field-scale system to lab-scale allow for rapid assessment of new design modifications, and was completed on-time and in-budget.
- → Responsibilities also included generating P&IDs, engineering drawings, SOPs for plant operations, as well as technical reports and presentations.

GRADUATE RESEARCHER THE UNIVERSITY OF WESTERN ONTARIO · LONDON, ON · 2019 – 2022

- → Completed thesis research providing the first-ever study for improving the sustainability of a combustion-based soil treatment system through energy efficiency optimizations.
- → Developed a suite of >12 novel ANSYS Fluent CFD simulations using real-world system data to quantify system energy storage, cooling time, and excess thermal energy available for recycling within the system to offset energy demands.
- → Completed energy and exergy analysis to identify and match excess energy sources with system energy needs.
- → Received 2021 R.M. Quigley Award for research accomplishments and strong academic standing.

ENGINEERING INTERN DANBY PRODUCTS LIMITED · GUELPH, ON · SUMMER 2018 & 2019

- → Principal CAD modeller (SolidWorks) for the mass-produced Danby Parcel Guard smart mailbox. Built SolidWorks assembly packages to the specifications required for injection molding production.
- → Conducted prototype assessments and iteration, followed by the development and implementation of QA/QC processes to ensure the final product was fit for big-box retail distribution.

LISCENSCING

- → Passed PEO's Professional Practice Examination (NPPE) in April 2023.
- → Eligible for P.Eng. license in 2026. Enrolled in PEO's EIT program since 2022.

EDUCATION

Master of Engineering Science (M.E.Sc.) *The University of Western Ontario* *2022*

Notable Courses: Wind Energy, Applied and Advanced Computation Fluid Dynamics

Bachelor of Engineering (B.Eng.) *The University of Guelph* *2019*

Notable Courses: Energy Management & Utilization, Energy Conversion, Sustainable Energy System Design

PUBLICATIONS

- → Understanding, controlling and optimising the cooling of waste thermal treatment beds including STARx Hottpads [LINK]
- → Exploring Waste Heat Recovery from a Commercial Applied Smouldering System [Manuscript in Preparation]