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# Ahmed Elmeligy, P.Eng.

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## EDUCATION

### University of Calgary

Master of Public Policy Candidate, GPA 4.0/4.0 [Ongoing]

Calgary, AB

2023 – 2024

- *Capstone Project:* Optimizing Transmission Infrastructure for Renewable Energy Integration in Alberta.

### University of Ottawa

BASc in Chemical Engineering, Summa Cum Laude, GPA 9.73/10.00

Ottawa, ON

2013 – 2018

## PROFESSIONAL EXPERIENCE

### Imperial Oil/ExxonMobil, Kearl Oil Sands

Extraction & Tailings Facilities Engineer

Wood Buffalo, AB

Jan 2022 – Mar 2023

- **Highlight:** Led profitability initiatives to increase unit run length by 100% thereby reducing shutdown frequency and increasing unit utilization, via design changes and metallurgy upgrades.
- Led assessments of unit operation to determine root-cause issues and barriers to profitability, safety, and reliability. Coordinated teams of operators, technologists, and maintenance personnel to identify and address areas of inefficiency.

### Imperial Oil/ExxonMobil, Strathcona Refinery

Distillation & Hydrotreating Process Engineer-in-Training

Edmonton, AB

Aug 2020 – Jan 2022

- **Highlight:** Oversaw performance optimization efforts for process units generating a cumulative P&L of \$200M annually and achieved record asphalt production by resolving bottlenecks and longstanding reliability challenges.
- Established and deployed operational improvement initiatives, guiding all aspects of project management from scope definition, budgeting, and planning to implementation and ongoing performance management.

Technical Start-Up Lead – Vacuum Pipestill Cutpoint Improvement Project

Jun 2020 – Nov 2021

- **Highlight:** Researched global best practices to enhance the vacuum pipestill pitch cutpoint to be best-in-class and minimize heavy fuel oil production, generating \$13M in net recurring annual benefits.
- Tapped by management as one of the youngest engineers leading a \$55M project at Strathcona and was recognized for consistently challenging existing practices to uncover process improvements across the production chain.

Process Development Engineer-in-Training

Jan 2019 – Jul 2020

- **Highlight:** Designed and oversaw the execution of a new injection facility in response to off-spec bunker fuel, bringing regulatory compliance standards in-line with expectations to prevent a potential \$9M in annual penalties.
- Took the initiative to advocate for employee well-being as the Committee Lead of the Strathcona Working From Home Engagement team aimed at combating employee loneliness and disengagement during COVID-19.

## RESEARCH EXPERIENCE

### NSERC REDEVELOP Program

Circular Economy Team Lead and Researcher

Calgary, AB

Nov 2023 – Present

- Actively driving research into the integration of geological CO<sub>2</sub> sequestration with geothermal energy extraction and lithium brine recovery in Alberta.

### University of Ottawa, Centre for Research in Photonics

Research Assistant

Ottawa, ON

May 2018 – Aug 2018

- Designed and built a portable microfluidic system utilized for the detection of disease in biofluids using long-range surface plasmon-polariton waveguides.

### Tianjin University, Key Laboratory of Membrane Science and Desalination Technology

Visiting Research Assistant

Tianjin, China

May 2017 – Aug 2017

- Researched, fabricated, and characterized polymer matrices for membrane distillation using non-destructive evaluation methods: XRD, SEM, TEM, and FTIR.

### University of Ottawa, ENERGY - S.M.A.R.T. Group

Research Assistant

Ottawa, ON

Sept 2014 - Apr 2015

- Conducted research on adsorbents recovery ability of carbon dioxide to recycle to produce hydrocarbon fuel, which is an alternative to carbon capture and sequestration (CCS).

## LEADERSHIP EXPERIENCE

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**Chair | Imperial Oil (Edmonton) United Way Campaign** Jan 2021 – Nov 2021

- Provided leadership and direction to 15 committee members raising a total of \$338K, surpassing campaign goals. Awarded Employee Campaign Chair of The Year by United Way of The Alberta Capital Region.

**Co-Founder | CoV-Informed (Risk and Strategy Consulting)** May 2020 – Oct 2021

- Provided strategy consulting to small businesses by applying data analytics to provide insights. Selected as a top team amongst 1800+ competitors from 89 countries in MIT's Beat the Pandemic Hackathon.

**Committee Lead | Strathcona Working from Home Engagement Team** Mar 2020 – Oct 2020

- Engaged 500+ employees at Strathcona Refinery by starting employee well-being initiatives using a collaboration-centered approach to combat loneliness and disengagement as a result of the COVID-19 pandemic.

**Co-Founder and Director | Khair4All (Poverty Alleviation Charity)** Aug 2011 – June 2017

- Administered a budget of \$150,000 and managed the daily activities of 50+ volunteers across fundraising and operations.

## COMMUNITY INVOLVEMENT & EXTRACURRICULAR ACTIVITIES

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- The Fraser Institute Student Ambassadorship Feb 2024 – Present
- University of Calgary, Graduate Student Association, Awards Committee Member Jan 2024 – Present
- Mealtime Companion, Bethany Riverview Sept 2022 – Present
- Virtual Math & English Tutor, YYCGenerosity Apr 2021 – Nov 2021
- Responder, Edmonton Regional Search and Rescue Association Jan 2020 – Nov 2021
- Patient Visitor & Pandemic Support Volunteer, Covenant Health Jul 2019 – Nov 2021
- Treasurer, TM4PM Toastmasters Club Oct 2019 – Sep 2020
- Meal Prep Volunteer, Hope Mission Sept 2018 – Sept 2019
- Student-Athlete: University of Ottawa Novice Rower Sep 2017 – Mar 2018
- President, Society of Environmental Engineering, Development, Management and Science Sep 2017 – May 2018
- Elected Engineering Faculty Council Member, University of Ottawa Sep 2015 – Apr 2016
- Research and Development Specialist, Enactus Canada Sep 2015 – May 2016

## PUBLICATIONS

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A. Elmeligy, P. Mehrani, and J. Thibault *"Artificial Neural Networks as Metamodels for the Multi-Objective Optimization of Biobutanol Production"*, Applied Sciences (ISSN 2076-3417), June 2018.

## COMPETENCIES

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**Computer:** VBA, Java, Python, Fortran, C, Honeywell's Control Language, Minitab, R, LabView, Aspen HYSYS/UniSim, Microsoft Office Suite

**Certifications:** Standard First Aid, CPR Level "C" and AED, Wilderness Advanced First Aid, Mental Health First Aid, Industrial Firefighting Fundamentals, Private Pilot License (PPL)

## RELEVANT AWARDS

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- 2023 Giving Day Graduate Scholarship in the School of Public Policy
- 2021 United Way Alberta Capital Region Employee Campaign Chair of The Year (Private Sector)
- 2019 & 2020 Imperial Oil Strathcona Excellence Award (People and Culture)
- 2018 Canada Hatch Plant Design Competition - Placed 2nd out of 22 schools across Canada
- 2018 Canadian Society of Chemical Industry Award (Engineering)
- 2018 Faculty Plaque in Chemical Engineering
- 2017 International Experience Scholarship
- 2016 University of Ottawa Merit Scholarship
- 2015 – 2017 Chemical Engineering Professors' Scholarship
- 2014 Undergraduate Research Opportunity Program Award
- 2013 – 2018 University of Ottawa's Renewable Admission Scholarship
- 2013 – 2018 Dean's Honour List
- 2013 Dean's Merit Scholarship

## INTERESTS

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Endurance Running – Mountaineering – Aviation – Weightlifting – Photography