4-10638 83 Ave NW, Edmonton, AB T6E 2E2
(Can relocate without assistance if required)
+1 (780) 716-8291
fa2@ualberta.ca

Fahim Abdullah

Education

University of Alberta **Edmonton, AB**
BSc. in Chemical Engineering (Computer Process Control) *2014 – 2018*
Cumulative Grade Point Average: **4.0/4.0** Engineering Graduation Average: **4.0/4.0**
A+ in Process Analysis, Fluid Mechanics, Thermodynamics I & II, Reactor Analysis I & II,Separation Processes, Heat & Mass Transfer, Process Data Analysis, Digital Signal Processing, Intermediate Process Control, Materials Science, Financial Management, Intermediate Microeconomics, Calculus I & II, Statistics
A in Engineering Design, Fundamentals of Oil Sands, English Writing Essentials, Linear Algebra
Scholarships: Alexander Archibald M. Patton Memorial, Talisman Engineering Undergraduate, Faculty of Engineering Academic Excellence, Roland Stansfield Young Memorial Academic Excellence

Work Experience

Simulation Team Lead in Engineering Design Courses
University of Alberta, Edmonton, AB *Sep 2017 – Apr 2018*
- Biogas Upgrading (won first place in poster competition and letter grade of A):
  - developed process to upgrade raw biogas generated from coal mines to 97 v/v% pure methane
  - simulated process of 40+ streams in VMGSim and reproduced a neater version for the PFD on Visio
  - used case studies and considered multiple recycle streams to heavily optimize process
- SAGD integration with a GTL facility (received letter grade of A):
  - developed process for how a modular GTL facility could be integrated with a SAGD facility
  - simulated process of 100+ streams in VMGSim using three different thermodynamic models for each part of the process and for each phase with optimized interaction parameters from literature
  - used case studies, multiple recycle streams, and heat integration to heavily optimize process
  - assisted team in reactor and heat exchanger design calculations, literature review, and final proof reading

Thermodynamics Research Assistant under Dr. Janet A.W. Elliott
University of Alberta, Edmonton, AB *Sep 2017 – Apr 2018*
- developed possible geometric configurations for an oil droplet and air bubble coming into contact in water
- derived governing equations for each configuration based on equilibrium and geometric constraints
- wrote MATLAB code to solve system of equations derived and plot results to visualize states
- overcame numerical challenges in solving the system of equations
- developed organized report-writing skills and improve technical writing by publishing a paper on the research

Process Control/Data Analytics Research Assistant under Dr. Jinfeng Liu
University of Alberta, Edmonton, AB *May – Aug 2017*
- developed classifier to identify acceptable and unacceptable models to predict patients' blood Haemoglobin levels after drug dosage using linear discriminant analysis
- used principal component analysis to identify most significant input factors affecting output and reduce required model complexity
- fine-tuned classifier parameters based on classified training set and physical understanding of parameters
- exposed to designing constrained ARX models by solving a mixed-integer nonlinear programming problem

Process Control Research Assistant under Dr. Stevan Dubljevic
University of Alberta, Edmonton, AB *May – Aug 2017*

- developed Michaelis–Menten model for an organic waste decomposition process in a lab scale to predict biomass composition from core temperature measurement
- designed experimental setup and develop protocol for data collection
- reproduced SolidWorks ® designs for compost bins from images
- wrote detailed progress report at the end for work to be carried over with ease by the next person
- *Separate Project*: acquired basic knowledge of Swift ® and initiate development of iOS application to plot temperature profiles for heat exchangers from the solution of a boundary value problem using Xcode ®

Mineral Processing Research Assistant under Dr. Qingxia Liu
University of Alberta, Edmonton, AB *Jan – Apr 2017*

- investigated the generation of micron/submicron size bubbles by acoustic cavitation
- improved existing experimental and data collection protocols by thinking outside the box
- wrote MATLAB code to operate equipment and automate data collection
- learned and adhered to laboratory safety regulations

Bitumen Upgrading Research Assistant under Dr. William C. McCaffrey
University of Alberta, Edmonton, AB *Nov – Dec 2016*

- controlled morphology of iron nanocatalysts generated by the decomposition of iron naphthenate
- learned about the various blends of crude oil and the pipeline specifications to transport it
- simulated reactions using VMGSim (process simulator) to ensure safe reaction procedures
- concisely presented findings of work completed to a class of professors and graduate students
- worked under rigorous deadlines and schedules due to a delayed start while attending a full course load

High School Mathematics Teacher
Bangladesh International School, Dammam, Saudi Arabia *September 2013 – August 2014*

- taught thirty classes weekly to 7th and 8th grade students
- prepared assignments every week to assess students and improve performance
- arranged and supervised the educational field trip for 100+ students
- appointed class teacher after a month based on outstanding performance

Computer Skills

Microsoft: Proficient in Word, Excel, PowerPoint, Access, Visio, Outlook, Project

Mathematics: Proficient in MATLAB and Mathematica

Programming: MATLAB, Python, R, VBA, Swift

Graphics: LaTeX, Adobe Photoshop and Illustrator

Simulators: Proficient in VMGSim & Simulink

Statistics: Excel, Python, R, SPSS, Minitab

Volunteer Activities

Treasurer of the Muslim Students' Association at the University of Alberta *2016 – 2018*

Secretary and Document Controller of the MCE Outreach Committee *2015 – 2018*

Other Qualifications and Training

Valid Driver's License, WHMIS Training, IPEIA Pipeline Codes Course, Alberta Construction Safety Course, University of Alberta Laboratory Safety Course, University of Alberta Chemical Safety Course