Milad AGHABARARNEJAD

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Objective

Member of Ordre des ingénieurs du Québec (chemical engineering) with 7 years of experience in research, development, analysis and implementation of various chemical processes.

Summary

- ✓ Enthusiast in research and implementation of innovative technologies
- ✓ Proven trouble finding and troubleshooting abilities
- ✓ Strong ability in data analysis and documenting the results
- ✓ Strong presentation and communication skills
- ✓ Ability to work independently as well as a practical team player
- ✓ Reliable and self confident in decisions making

Professional experience

Product Development Leader-MAGS, Terragon Environmental Technologies, Montreal, Canada 2015

Micro auto gasification system (MAGS) is a waste gasification machine for treatment of solid and liquid where the excess energy is recovered in the form of hot water.

- ✓ Developed and implemented a method to:
  - ✓ Detect the safe conditions for loading the solid waste;
  - ✓ Control the oxygen % within the system;
  - ✓ Control the temperature of the combustion chamber
- ✓ Optimized the emissions of micro auto gasification system in treatment of l'Oreal sludge to meet the Montreal island atmospheric emission standards
- ✓ Studied the different types of engines which can extract electricity from the system
- ✓ Led the commissioning and troubleshooting of the new product (V8)
- ✓ Prepared the functional description of the system which describes all the control logic of the system
- ✓ Assisted the clients at different locations to operate the system

Post doctoral fellow, ME Resource Corp., BRI-NRC laboratory, Montreal, Canada 2014

- ✓ Designed and optimized the GTL process to convert associated gas to liquid
- ✓ Coordinated the start-up of the lab and bench scale reactors at high pressure and temperature
- ✓ Made intelligent decisions on how to improve the system efficiency to maximize the production of liquid hydrocarbons
- ✓ Coached a team of GTL professionals and organized to operate continuously the system

Research Assistant, Research Center In Process Engineering-Biorefinery (CRIP), 2009-2014

Montreal, Canada

- ✓ Proposed, designed and developed a novel process for partial combustion of biomass
- ✓ Commissioning, start-up, and operation of a bench scale fluidized bed steam gasifier
- ✓ Optimized the steam gasification system for maximum conversion
- ✓ Developed the mass balance and simulation for a 8 MW_{th} conventional gasification unit as well as a chemical looping gasifier (The novel gasification system)
- ✓ Compared the feasibility of the innovative gasification system (chemical looping gasification) with the conventional gasifier
- ✓ Led the undergraduate projects (16 students, Biodiesel production, Fuel jet production, Hot syngas cleaning), design, simulation, and cost estimation
- ✓ Was responsible of catalyst laboratory and negotiated the repair and maintenance costs with different suppliers

Research Assistant, Multiphase Research Lab., Oil and Gas Centre of Excellence, Tehran, Iran 2007-2009

- ✓ Was in charge of the simulation and reactor design laboratory
- ✓ Developed an innovative model to predict the regime transition in fluidized beds

Process Engineer, National Iranian Oil Refining and Distribution Co. (NIORDC) 2006-2007

- ✓ Worked on catalytic cracking and distillation units
- ✓ Provided a full simulation of the catalytic cracking unit with "HYSYS" software which enabled the operators to better control the process
- ✓ Prepared the flow diagram of the process (PFD) with mass and energy balance

Education

Ph.D. in Chemical Engineering, Polytechnique Montreal, Montreal, Canada 2009-2014

- ✓ Thesis: Chemical looping steam gasification of biomass in a fluidized bed reactor

M. Sc. in Chemical Engineering (process design), University of Tehran, Iran 2007-2009

- ✓ Thesis: Evaluation of bubbling-turbulent regime properties in a fluidized bed reactor

B. Sc. in Chemical Engineering, University of Tehran, Iran 2003-2007

Software

- ✓ Proficient in computer simulators: HYSYS, ASPEN, FACTsage, LAB View
- ✓ Programming : MATLAB, C++, Microsoft Project

Distinctions

- ✓ Winner of "48 hours for innovation", international interuniversity competition, Montreal 2013
- ✓ Obtained scholarship from National Iranian Oil Refinery & Distribution company to fulfill the master program in Chemical Engineering 2008
- ✓ Ranked 6th among more than 5000 participants for the entrance exam of master of science in Chemical Engineering, Iran 2007