

HIGHLIGHT OF QUALIFICATIONS

- Demonstrated problem-solving, time-management, and communication skills
- Exceptional programming aptitude; agile learner and fluent in Python, C++, VBA, and MATLAB
- Ample exposure to upstream, downstream, and engineering services of petrochemical industries through past internships

EDUCATION

The University of Texas at Austin, PhD in Chemical Engineering, Aug. 2011 – June 2015 (expected)

- Systems and Controls Engineering Research Group (Adviser: Dr. Thomas F. Edgar)
- **Research focus:** Inferential sensors and multivariate fault diagnosis of batch processes
- **Publications:**
 - Yang Zhang, Bo Lu, and Thomas F. Edgar, “Batch Trajectory Synchronization with Robust Derivative Dynamic Time Warping”, Industrial and Engineering Chemistry Research, 2013 (accepted)
 - Bo Lu, John Stuber and Thomas F. Edgar, “Integrated Online Virtual Metrology and Fault Detection in Plasma Etch Tools”. Industrial & Engineering Chemistry Research, 2013 (accepted)
 - Bo Lu, Ivan Castillo, Leo Chiang and Thomas F. Edgar, “Industrial PLS Model Variable Selection using Moving Window Variable Importance in Projection”, Chemometrics and Intelligent Laboratory Systems, 2014 (accepted)

The University of Alberta, BSc in Chemical Engineering, April 2011

- GPA of 4.0/4.0, First Class Standing
- **Core courses:** chemical reactor, separation systems, thermodynamics, fluid mechanics, project economic evaluations, mass and heat transfer, signal processing and process control
- **Specialization:** control theory, process dynamics and modeling, bitumen upgrading, and industrial safety and risk management
- **Final projects:** Long-distance bitumen emulsion flow characterization and transport system design, waste-lubricant recycling plant design and feasibility study using green processes

WORK EXPERIENCES

May 2013 – Aug 2013 Chemometrics Intern, Dow Chemical Inc., Freeport, TX

- Focused on a research project evaluating methods for selecting relevant variables in inferential sensor development
- Developed, implemented and evaluated state-of-art variable selection methods in literature
- Presented findings to management, research staff, run-plant engineers
- Conducted multivariate analysis and troubleshooting support for Dow’s operating plant in King’s Lynn, England

May 2010 – Dec 2010 Reservoir Engineering intern, Suncor Energy Inc., Calgary, AB

- Developed automation scripts and data summarization reports for production monitoring
- Created thermal fluid reservoir simulations models for sensitivity analysis of different wellbore configurations
- Developed empirical heat conduction models and used these models in start-up planning
- Performed data mining on three years of transient pressure data in order to characterize downhole pressure degradation

- Presented findings to senior engineer, management and actively communicated with on-site production engineers.
- Gained valuable experience in reservoir simulation, multivariate data analysis, technical reporting and technical communication.

May 2008 – Dec 2008 Control Engineering intern, Dow Chemical, Fort Saskatchewan, AB

- Took responsibility in daily maintenance and troubleshooting of multiple control systems
- Recognized with Dow WesTec operation excellence award for participating and presenting in the pilot testing of wireless instrumentation
- Voluntarily improved outdated flow-sheet to make them more operator friendly
- Developed a data integrity verification program for a new AESO network; took ownership in subsequent liaison with AESO regulators on behalf of the Dow co-gen plant
- Implemented waste-water disposal control strategies and contributed in subsequent LOPA and HAZOP risk assessments

COMPUTER SKILLS

- **Office applications:** Excel/Access Add-ins and VBA scripting
- **Industrial applications:** Aspen Plus, HYSYS, Simulink, GPROMS, STARS (reservoir simulator), PI Historian, PLC/DCS programming, and SQLPlus
- **Operating Systems:** Windows, Linux/Unix/OSX, and Solaris
- **Programming and scripting:** LaTeX, Python, C++, Java, Ruby, PHP+HTML+CSS, SQL, and MATLAB

AWARDS AND RECOGNITIONS

- Canadian NSERC Graduate Research Scholarship PGS M, 2011-2012
- The Cenovus Chemical Engineering Scholarship, 2010
- The DB Robinson Prize in Thermodynamics, 2009
- Dow Chemical WesTec Conference Award for Operation Excellence, 2008
- The Conway Reimer Memorial Scholarship in Computer Process Control, 2008
- NSERC Undergraduate Student Research Award, 2007
- *Additional academic scholarships are not listed and are available in the transcript*

VOLUNTEERING AND MISCELLANEOUS

- President , Chinese Students and Scholars Association, University of Texas at Austin, 2012-2013
- VP-Finance, International Society of Automation, University of Alberta chapter, 2010-2011
- University of Alberta Orientation Team Leader, 2009
- Hobbies: photography, reading, badminton, tennis, camping and hiking
- **Citizenship:** Canada, **Immigration Status:** F-1 Student (OPT, CPT available)

REFERENCES

References are available upon request