Lawrence Lai

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Highly motivated 6th year PhD Student in Chemical Engineering. Generalist experienced with both computational and experimental methods. Highly organized leader, president of two student organizations seeking to leverage a broad spectrum of skills in industry.

Education

Massachusetts Institute of Technology — Cambridge, MA
PhD in Chemical Engineering — Expected June 2019

- Thesis Title: Alkylaromatic Reactions in Pyrolysis
- Relevant Coursework include managerial finance, machine learning, and Patent Law
- Publications (partial list):
  - **L. Lai**, S. Gudiyella, M. Liu and W. H. Green, "Chemistry of Alkylaromatics Reconsidered," Energy & Fuels, **2018**, 32 (4), 5489-5500
  - **L. Lai**, S. Khanniche, W. H. Green, "Thermochemistry and Group Additivity Values for Fused Two Ring Aromatic Species and Radicals", **2018**, in preparation
  - **L. Lai**, W. H. Green, "Thermochemistry and Kinetics of Aromatic Intermolecular Addition Reactions", **2018**, in preparation
- Leadership:
  - Teaching Assistant, 10.26 – Chemical Engineering Lab; managed team of 3 students to develop new lab technique for nanoparticle sizing
  - President of MIT Sport Taekwondo
  - President of Hong Kong Student Society of MIT

University of Michigan, Ann Arbor — Ann Arbor, MI
B.S.E in Chemical Engineering — December 2012

- Relevant Coursework include Environmental and Sustainable Engineering and Process Economics

Recent Industry and Research Experience

Massachusetts Institute of Technology, — Cambridge, MA
Department of Chemical Engineering, PI: William H Green Lab — Fall 2013 – Present

- Study on alkylaromatic reactions in supercritical water for crude oil upgrading
- Generation of chemical mechanisms for alkylaromatic pyrolysis

Corning Inc. — Corning, NY and Wilmington, NC
MIT Chemical Engineering School of Practice — Fall 2014

- Found defect in existing product line, narrowing down corrective measures

General Mills — Minneapolis, MN
MIT Chemical Engineering School of Practice — Fall 2014

- Developed methods to improve existing product lines to eliminate safety hazards

University of Michigan — Ann Arbor, MI
Undergraduate Research Assistant — Fall 2014

- Microbial engineering of E.coli for isobutanol tolerance

Other Skills and Languages

- Experienced with statistics, solving differential equations, machine learning, and data visualization
- Experienced in Python, MATLAB, GitHub, Gaussian 03, C++, and Aspen Plus
- Fluent in Cantonese Chinese; intermediate in Mandarin Chinese