**Joonjae Ryu**

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**Objective**

Summer internship position in chemical engineering

**Education**

**Ph.D. Chemical & Biological Engineering**, expected Aug 2022, **University of Wisconsin – Madison**

* Minor in Industrial & Systems Engineering

**M.S. Energy**, Aug 2017, **Texas A&M University**

* Fully funded from EDRC (Korean government agency)

**B.S. Chemical & Biological Engineering**, Mar 2016, **Seoul National University**

* Cumulative GPA 3.83/4.0
* Graduate with Summa Cum Laude

**Publications**

* Ryu J, Maravelias CT. Computationally Efficient Optimization Models for Preliminary Distillation Column Design and Separation Energy Targeting. *Computers & Chemical Engineering*, accepted, 2020.
* Ryu J, Maravelias CT. Efficient Generalized Shortcut Distillation Model with Improved Accuracy for Superstructure-based Process Synthesis. *AIChE J.*, accepted, 2020.  
  (DOI: <https://doi.org/10.1002/aic.16994>).
* Ryu J, Kong L, Lima AEP, Maravelias CT. A Generalized Superstructure-based Framework for Process Synthesis. *Computers & Chemical Engineering, 133*, 106653, 2020.  
  (DOI: <https://doi.org/10.1016/j.compchemeng.2019.106653>).
* Ryu J, Maravelias CT. Simultaneous Process and Heat Exchanger Network Synthesis Using a Discrete Temperature Grid. *Industrial & Engineering Chemistry Research*, 58, 6002-6016, 2019.  
  (DOI: <https://doi.org/10.1021/acs.iecr.8b04083>).

Internship Experience

Winter Internship Program, 2015, OCI

* Optimization of air supply into heater to minimize flue gas demand

Projects

* Ph.D.
* Developing generalized and computationally efficient optimization models for the synthesis of sustainable chemical production systems
* MS
* Thesis: Energy-Water Nexus in Eco-industrial Park with Thermal Hydrolysis Process for Bio-waste Utilization
* BS
* Thesis: Utilization of supercritical fluid for superhydrophobic surface manufacturing

Skills

Software: GAMS, Python, Julia, Aspen Plus, MATLAB, LINGO, Microsoft Excel

Leadership

Coordinator of recruiting process in Korean Student Association

Awards/Scholarship

Student of the year, July 2017, Texas A&M University

EDRC Scholarship for Global Engineer (Full funding during Master’s degree)

National Science & Technology Scholarship (Full funding during Undergrad)