Zailin Yuan

LinkedIn: https://www.linkedin.com/in/zailinyuan • Email: zailinyu@usc.edu OR yuanzailinapp@163.com
WeChat: wish_2000• Cell: 213-309-6332

POSITION DESIRED

2020 Campus_CDP_Chemical Engineer, Zhangjiagang, UOP, PMT HRD74343

EDUCATION

M.S., Chemical Engineering Dec.2018
University of Southern California (USC)
GPA: 3.3 / 4.0
Courses: Process Modeling & Analysis, Viscous Flow, Heat & Mass Transfer, Reaction Kinetics, Thermodynamic

B.S., Chemical Engineering June.2016
Qingdao University of Science & Technology (QUST)

WORKING EXPERIENCE

HUAYIHEFENG Specialty Chemicals - 50000 t/y special ester products project Jan.2016-May.2016

- Created and developed industrial chemical process and plants of producing 14 types of esters. Drew chemical process flow diagrams (PFD) using *AutoCAD,* designed *PID* on *AutoCAD.*
- Communicated with customers on technical details. Upgrade process and equipment design according to customer requirements.
- Compiled part of feasibility study report. Specified product's instructions and safety specification on all raw chemical materials, products, by products and auxiliaries.

RESEARCH

Synthesis of *3-Cyclohexene-1-methanol-6-methyl methacrylate* May.2015

- Tested optimal reaction conditions of synthesizing 3-Cyclohexene-1-methanol-6-methyl methacrylate.
- Built a *reactive distillation* plant coupled with vacuum distillation devices to separated product / by-products.
- Tested repeatability of the most effective catalyst, recording its recycling time vs its performance.
- Designed orthogonal tests to find the best combination of all considered reactions.
- Analyzed fraction of product / by-products by GC, characterized product by 1H-NMR, calculated products' yield.
- Presentation and thesis oral defense.

PROJECTS & COMPETITIONS

Data Analytics and Monitoring on Tennessee Eastman Process May.2017

- Employed PCA, LDA and CCCA methods using R and MATLAB modeling on both the quality and process datasets of the Tennessee Eastman Process.
- PCA combined with T^2 and Q limit to detect potential disturbance in distorted data sets.
- Introduced LDA method to decide which observation belongs to normal region/abnormal region.
- Used CCCA method to monitor the input and output of process with disturbances.
- Presentation and oral defense.

Chevron-USC Student Design Competition Jan.2017-Feb.2017

- Collaborate working to analyze cost recovering period of replacing *Dimersol* process by *Difasol* process.
- Estimated prices of raw materials, key equipment and catalysts, inflation and costs.
- Presentation and oral defense.

Depropanization Process Design Nov.2013

- Led a team to design *Depropanization Distillation* Devices. Designed process framework with lowest energy consumption. Designed PFD on Aspen Plus.
- Performed process simulation on *Aspen.* Examined reliability of simulation results. Determined column type, stages, feed stage and all equipment parameters, determined plane column/pump/heat exchanger parameters. Analyzed sensitivity regarding feed stage.
- Operated simulation and animation of plant's startup/shutdown on *Yokogawa CS 3000* system (DCS) by setting process parameters.

SKILLS

- Chemical Lab Skills: Chemical products tests and analysis (GC), Chemical Lab experiences
- Programming Languages: Java, C/C++, JavaScript, HTML, CSS, Python
- Tools: AutoCAD, Aspen Plus, Eclipse(Java), Matlab, R

AWARD

- Second prize in *"Chevron Student Design Competition"* Feb.2017
- Second prize in Depropanization Process Design Nov.2013
- Activist in Student Community (Tech & Innovation club) 2011-2012