a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

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# Jose Gabriel Dimayacyac

Chemical & Biological Engineering

## TECHNICAL SKILLS

**Laboratory**

- Experimental Design
- Data Calibration
- Report Write-up
- Laboratory Technique
  - Chemical Handling & Storage
  - Sample Preparation
  - Titrations

**Computer**

- Word & Excel
- Visual Basic
- SolidWorks
- C
- MATLAB
- HTML & CSS
- Adobe Illustrator

**Certification**

- WHMIS Training
- Chemical Safety Training
- Lab Safety Training

## ACADEMIC & CO-OP STATUS

**Academic Program**

- 4 of 8 academic terms completed
- Anticipated date of graduation: May, 2020

**Co-op Status**

- Completed 1/5 work terms; available for 4 or 8 months, beginning January, 2018

## TECHNICAL WORK EXPERIENCE

### Energy Reduction in Mechanical Pulping at BCIT — August, 2017 - Present

***Research Assistant***

- Tested the effects of various chemicals on thermos-mechanical pulp by using machines that measure tensile strength, tear index, brightness, and other properties of hand-sheets developed from treated pulp
- Developed hand-sheets by precisely performing procedures of TAPPI and frequently checking consistency of pulp to ensure reproducibility
- Treated pulp carefully with various chemicals, including chelating agents, acids and corrosives like DTPA, sulfuric acid and chlorine dioxide
- Assisting with a published study on the effects of Chlorine Dioxide on tensile strength and pulp brightness at varying conditions, including treatment consistency, charge of Chlorine Dioxide and temperature of reaction

### FlexWrite — July, 2017

***Engineering Student***

- Accumulated experience at an industrial manufacturing environment in which safety was of highest priority
- Drafted a 90 page, detailed, but easy to read procedure about a highly technical manufacturing process that effectively instructs new technicians about how to execute each stage of the process
- Communicated with current technicians from *Advanced Flow Systems* for eight hours a day to gather information about the technical procedure for the construction of frames for 5 MW fuel cells under the *Doosan Group*
- Recorded all notes and pictures in a confidential manner to prevent leakage of information about the process

## TECHNICAL PROJECTS

### Chem-E-Car Competition — September, 2016 – Present

***Design Team Captain***

- Reorganized Chem-E-Car team structure to attract new members to the team and ensure their active engagement for the following year and years to come
- Delivered a presentation on our Chem-E-Car project at the International Conference on Engineering Design 2017 to Applied Sciences professors and professional engineers from all over the world

***Fuel Cell Team Contributor***

- Communicated with fuel cell suppliers to ensure proper specifications of the fuel cell and electrolyzer, as well as to confirm team understanding of safety protocol when handling Hydrogen gas
- Designed a mechanism for transferring produced Hydrogen from an electrolyzer into a balloon and feeding the gas into the fuel cell to power the car motor
- Modeled designs on SolidWorks and used 3D printer to produce specifically dimensioned parts for mechanism

***Chemical Team Lead***

- Competed in AIChe Chem-E-Car 2017 at Oregon State University against other university teams within region
- Led team through planning, prototyping, modeling and designing a successful reactor that provided ideal conditions for the Iodine Clock mechanism to operate accurately to an error of less than 3%
- Collaborated with Battery Team, Mechanical Team, and Electrical Team to coordinate dimensions and features for respective sections of the car using SolidWorks
- Created Standard Operating Procedure for experiments that were conducted in the laboratory, including information about safety, storage of chemicals and emergency procedures

**Personal Website** **August, 2017**

- Self-taught HTML and CSS through online tutorials to create an aesthetic and organized mobile responsive resume site without the use of any front-end frameworks
- Designed my own logo and personal branding through sketching and processing the image with Adobe Illustrator

**Poster Presentation Promoting Polarimetry** **March, 2016**

- Proposed a new experiment that can be performed by second year engineering students and after presenting it with my group of four, received a very positive response by the lab professor and all my classmates for this idea
- Researched techniques, equipment and costs required for polarimetric analysis and chemical hydrolysis of sucrose while applying knowledge from my second year organic chemistry course to understand the experiment
- Delivered a two minute speech regarding the experimental procedure and equipment options for the experiment, receiving compliments for my speaking skills and audience engagement
- Formatted a poster with group of four and received approval from professor for spacing, content, and organization

**Patio Project** **June, 2016 – July, 2016**

- Built a 250 square foot garden patio and supporting outer retaining wall in the span of a month and a half, while in a team of two that had no prior experience doing this type of work.
- Negotiated with workers at Pacific Stone Inc, Clearview Nursery & Stone, and Home Depot to make bulk purchases of pavestones, wall blocks, sand, compacting sand, and gravel

**Rain Water Harvesting System Model** **March, 2016**

- Achieved the most sustainable Rain Water Harvesting model in a class of six other teams through designing a system on Excel that harvests, filters, and transports rain water to a small, local community
- Maximized local community's satisfaction of system to 99.7% through the manipulation of system's components, taking into account a large spreadsheet of data regarding cost, maintenance, and performance satisfaction

## OTHER WORK EXPERIENCE

**Superior Tofu Limited** **July, 2017 – August, 2017**
***Production Line Worker***

- Accumulated experience at industrial manufacturing environment in which product quality was of highest priority
- Learned food handling techniques efficiently to rapidly produce, store and package high quality products that contain no traces of contamination
- Operated a crane to pasteurize 6500 food products a day to eliminate all traces of bacteria before cold storage

**Orientations at UBC** **September, 2016**
***Imagine Day Orientation Leader***

- Represented UBC with a fun and friendly attitude, evoking excitement and grabbing the attention of new students during the UBC Imagine Day Event in September 2016
- Facilitated social activities and campus tour for 13 new undergraduates to warmly welcome them to UBC

## EDUCATION

University of British Columbia **Anticipated Graduation in May, 2020**
*Bachelor of Applied Science, Chemical and Biological Engineering*

## AWARDS

Dean's Honor List at University of British Columbia **2016**
AP Scholar Award w/ Distinction at Singapore American School (Scored 3 or more on 5 or more AP Exams) **2015**