a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Engineering Co-op Program
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Jose Gabriel Dimayacyac

Chemical & Biological Engineering

TECHNICAL SKILLS

Laboratory

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

Computer

- Word
- SolidWorks
- C
- Excel
- MATLAB
- HTML & CSS

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 0/5 work terms; available for 4 or 8 months, beginning May, 2017

TECHNICAL WORK EXPERIENCE

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

Research Assistant

- Tested the effects of various chemicals on thermo-mechanical pulp by using machines that measure the tensile strength, tear index, brightness, and other properties of the hand-sheets developed from the treated pulp
- Developed high quality hand sheets by performing frequent and precise (accurate to the thousandth) consistency checks during the hand-sheet making process
- Chemically treated pulp with hazardous chemicals including sulfuric acid, hydrogen peroxide and chlorine dioxide

Flex-Write — **July, 2017**

Student Engineer

- Accumulated experience at hazardous industrial manufacturing environment in which safety was of highest priority
- Wrote 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 a large Hydrogen Fuel Cell Frame for the *Doosan Group*
- Recorded all notes and pictures in a confidential manner to prevent leakage of all information about the process

TECHNICAL PROJECTS

Flex-Write — **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 our Chem-E-Car project proudly at the International Conference on Engineering Design 2017 to applied science professors and professional engineers from all over the world

Fuel Cell Team Contributor

- Communicated with fuel cell suppliers to ensure proper specifications and essential safety protocol when handling of 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 custom parts in 3D on SolidWorks to allow for flexibility in tubing and valve dimensions

Chemical Team Lead

- Competed in AIChe 2017 Chem-E-Car Competition at Oregon State University against other university teams within the region

- Led team through planning, prototyping, modeling, and designing a successful reactor that provided perfect conditions for the Iodine Clock mechanism to operate accurately
- Collaborated with Battery Team, Mechanical Team, and Electrical Team to coordinate dimensions and features for respective sections of the car using the 3D modeling software, SolidWorks.
- Created the Standard Operating Procedure for experiments that were conducted in the laboratory, including information about safety, storage of chemicals and emergency procedures
- Conducted laboratory tests for four hours a week to improve lab techniques and to achieve a chemical clock accuracy of less than 3% error.

Personal Website **August, 2017**
- Learned HTML and CSS through self-learning and online tutorials to create an aesthetic and organized mobile responsive resume site without the use of any front-end frameworks like Twitter Bootstrap
- 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, considering 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 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**