

# Michael Halim

Data Scientist · Data Analyst · Chemical Engineering Graduate

☎ (+1) 778-877-1960 | ✉ michaelhalim168@gmail.com | 📷 michaelhalim168 | 📄 michaelhalim168

## Skills

**Languages** Python, SQL, MATLAB, HTML, CSS

**Data Science** Numpy, Pandas, SciPy, Scikit-Learn, Statsmodels, Keras, Tensorflow, NLTK, Beautiful Soup, Selenium, Excel

**Data Visualization** Matplotlib, Seaborn, Plotly, Tableau

**Development Tools** Flask, Streamlit, AWS, Docker, Git, Bash Scripting, API, Jupyter Notebook, VSCode

## Data Science Projects

### GiftFinder

[Github Link](#)

WEB-APP THAT RECOMMENDS THE PERFECT GIFT BASED ON A RECIPIENT'S TWITTER PROFILE

August, 2021

- Trained a linear support vector classifier to predict between gift categories using Reddit data and achieved 85% accuracy on test data
- Developed a pipeline to clean and filter Tweets using tools like Regex, NLTK, and sentiment analysis to feed as input to classifier
- Scraped Amazon product pages using Beautiful Soup and stored data in SQLite database to create a content recommender system
- Deployed pipeline using Streamlit and evaluated final product using a public survey, which showed model had a 90% top-3 accuracy

### Flight Delay Predictor

[Github Link](#)

A MACHINE LEARNING PIPELINE THAT PREDICTS FLIGHT DELAYS IN JANUARY, 2020

June, 2021

- Utilized SQL to query information on 1 million historical US flights from Postgres database and used libraries, like Pandas and Seaborn, to perform exploratory data analysis and feature engineering
- Trained a random forest classifier and gradient boosting regressor to predict type and duration of delay and tuned hyperparameters using GridSearchCV - final pipeline achieved 60% accuracy on unseen data

## Work Experience

### Aspect Biosystems

[Vancouver, BC](#)

BIOMATERIAL RESEARCH INTERN

May, 2020 - August, 2020

- Developed techniques for the synthesis of alginate-based bio-inks with improved mechanical properties and biocompatibility for more efficacious tissue therapeutics
- Utilized Python to model the compressive and tensile strength of fibres constructed using microfluidic 3D-printing technology
- Discovered that formulated bio-ink was able to increase tensile strength by 35% compared to controls; presented findings in reports

### École Polytechnique Fédérale de Lausanne

[Lausanne, Switzerland](#)

IMMUNOENGINEERING RESEARCH INTERN - LABORATORY OF BIOMATERIALS FOR IMMUNOENGINEERING

March, 2019 - August, 2019

- Led an independent study to investigate the effects of micro-particle hydrophobicity on immune response, resulting in a novel in vitro platform capable of reducing T-cell proliferation time by 20% compared to controls
- Designed experimental protocol for material synthesis, antibody-conjugation, and T-cell expansion studies using techniques like flow cytometry and cell-culture
- Utilized Excel and FlowJo to characterize particle hydrophobicity and cell population and presented findings in lab presentations

### University Health Network, Princess Margaret Cancer Centre

[Toronto, ON](#)

NANOMEDICINE RESEARCH INTERN - ZHENG LAB FOR MOLECULAR IMAGING AND NANOMEDICINE

September, 2018 - February, 2019

- Collected biological data and used MATLAB to model the pharmacokinetic and toxicology profiles of a novel porphyrin-lipid nanomedicine in preclinical models to facilitate its clinical translation
- Developed a novel protocol to load biomolecules in porphyrin-lipid nanovesicles, achieving encapsulation efficiencies of up to 80%
- Research culminated in two poster presentations at research conferences and one second-author publication at a reputable journal

## Education

### Lighthouse Labs

[Vancouver, BC](#)

DIPLOMA IN DATA SCIENCE

May, 2021 - August, 2021

- Topics: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Time Series, Recommender Engines

### The University of British Columbia

[Vancouver, BC](#)

BACHELOR OF APPLIED SCIENCE IN CHEMICAL AND BIOLOGICAL ENGINEERING, WITH DISTINCTION (CGPA: 86%)

September, 2016 - May, 2021

- Courses: Calculus, Linear Algebra, Statistics, Chemical Separations, Reactor Design, Process Modeling, Computational Methods
- Awards: Leonard Staley Scholarship (2020), Go Global Research Abroad Award (2019), Outstanding International Student Award (2016)
- Activities: STEM Instructor at *Geering Up! STEM Outreach*, Biomedical Engineering Student Team, COVID-19 Design Challenge