

## Mission & Profile

I am passionate about solving business problems using Data Science & Machine Learning. I systematically & creatively use my skillset to add tangible value to the team, the business, and the end-user. I am constantly learning, and always looking to improve.

## Skills & Tools

Programming: SQL, Python (Base, Pandas, Numpy, Matplotlib, Scikit-Learn, Keras), R

Tools: Excel, Tableau, Github, AWS (S3, Lambda, IAM, EC2, SageMaker, RDS, DynamoDB, Glue)

Math: Linear Algebra, Statistics (Hypothesis Testing, AB Testing, Central Limit Theorem, Distributions)

Machine Learning: Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, k-means, PCA, Association Rule Learning, Causal Impact Analysis, Neural Networks

## Professional Experience

### Senior Insights Analyst - Netflix

June 2023 - Present

- To combat increasing churn, I built a *customer churn model* using Logistic Regression in Python. Customers deemed highly likely to leave ( $> 75\%$  probability) were put onto a retention programme leading to a 24% reduction in churn (vs. control group)
- To enhance content personalization, I applied product association metrics and clustering techniques to create six new customer-driven content categories. These led to an increase in "customer-in-app" time of 5%.
- To augment customer data, I applied predictive modelling (Random Forest in Python,  $r^2 = 93\%$  to estimate missing customer loyalty scores. This led to a 30% increase in customers the business could analyse, and subsequently contact with relevant promotional material.
- Facilitated and lead an interactive hackathon for students studying Data Science & Analytics at ABC University. This led to 3 new hires within 12 months.

### Data Analyst - ABC Grocery

August 2020 - May 2023

- Utilized both SQL & Tableau to automate data extraction, and create a dynamic weekly report that helped senior leadership understand and investigate trends over time, and diagnose potential issues.
- To aid the Marketing team's customer contract strategy, I built an automated hypothesis testing tool that analyzed marketing campaign results. This reduced the time for campaign evaluation by 20% and facilitated several other collaborations between Marketing & Data Science in the company.

## Projects

### Grocery Delivery Optimization

- Created & applied a Genetic Algorithm in Python to search out a near-optimal route across 10 addresses. This led to estimated savings of up to 50% in both delivery time and fuel consumption over a route based upon transaction order alone. This approach could be utilised across many industries as a way to find more optimal solutions.

**Projects (Cont'd)**

**"You Are What You Eat" Customer Segmentation**

- Used **k-means clustering** on grocery transaction data to split out customers into distinct "shopper types" that could be used to better understand customers over time, and to more accurately target customers with relevant content & promotions

**Courses & Certificates**

**Data Science Professional Certification (Data Science Infinity)**

**Actionable Learnings:** Extracting & manipulating data using SQL. Application of statistical concepts such as hypothesis tests for measuring the effect of AB Tests. Utilising Github for version control, and collaboration. Using Python for data analysis, manipulation & visualisation. Applying data preparation steps for ML including missing values, categorical variable encoding, outliers, feature scaling, feature selection & model validation. Applying Machine Learning algorithms for regression, classification, clustering, association rule learning, and causal impact analysis for measuring the impact of an event over time. Machine Learning pipelines to streamline the ML pre-processing & modelling phase. Deployment of a ML pipeline onto a live website using Streamlit. Using Tableau to create powerful Data Visualizations. Turning business problems into Data Science solutions.

**NLP 101 (Udemy)**

**Actionable Learnings:** Sentiment Analysis on customer reviews. This could be utilised to flag up customer complaints to a dedicated support team, improving customer satisfaction.

**Education**

Alaska Pacific University	Anchorage, AK
Bachelor of Arts Psychology	August 2006 - May 2010
University of North Carolina Charlotte	Charlotte, NC
Masters of Arts Elementary Education	May 2016 - October 2017