PHILLIP G. JACOBSON

Data Science | Analytics

303.868.1218 | phillipgj@gmail.com | linkedin.com/in/phillipgj | pgj-co.github.io

MOTIVATION

I have a strong passion for **solving business challenges** through Data Science & Analytics. I leverage my skills both systematically and creatively to **deliver real value** to the team, the organization, and the end-user. Committed to continuous learning, I am always seeking opportunities for improvement.

SKILLS & TOOLS

Programming: SQL, Python (Base, Pandas, Numpy, Matplotlib, Scikit-Learn)
Tools: Excel, Tableau, Github
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

PROJECTS

- ***Quantifying Sales increase With Causal Impact Analysis***

  Applied **Causal Impact Analysis** to assess the sales increase from grocery retailer. "Delivery Club" members, revealing a significant 41.1% rise in sales and providing insights into customer behavior that informed future marketing strategies.

- ***Assessing Campaign Performance Using Chi-Square Test For Independence***

  Conducted an *A/B test* using the **Chi-Square Test for Independence** to evaluate two mailer types in a grocery retailer's "Delivery Club" campaign, finding no significant difference in signup rates (37.8% vs. 32.8%) and advising against assuming higher costs would yield better ROI, promoting data-driven marketing strategies.

- ***Predicting Customer Loyalty Using Machine Learning***

  Developed a *predictive model* for customer loyalty scores using *machine learning*, with the **Random Forest** achieving the highest accuracy (Adjusted R-Squared: 0.955; K-Fold Cross-Validated R-Squared: 0.925) to predict loyalty for customers lacking data, enhancing the grocery retailer's understanding of customer dynamics and targeting strategies.

- ***Understanding Alcohol Product Relationships Using Association Rule Learning***

  Employed **Association Rule Learning** with the *Apriori algorithm* to analyze alcohol product transactions in a grocery store, uncovering significant associations that informed product placement and marketing strategies while addressing customer complaints about availability.

WORK EXPERIENCE

Real Estate Investor, Kavana Ventures (Denver, CO) November 2023 – Present

- Focused on real estate investing with an emphasis on remodeling distressed properties in Denver, CO, and Indianapolis, IN. Leveraged **market data and analytics** to inform investment decisions to ensure profitability of rental properties as well as properties that are sold for a profit.

Senior Technical Specialist, Bluelab/Autogrow (Remote) June 2022 – March 2023

- Originally brought on as a specialist in Autogrow control systems in Cannabis cultivation to provide training, support, and consulting services; expanded expertise by **analyzing operational data** to support growers of vine crops, berries, and leafy greens worldwide

Cannabis Cultivation & Operations Experience 2004 – 2022

- **Applied data analysis techniques** to increase flower canopy utilization and optimize greenhouse operations – resulting in enhanced yields by 30-58% YoY. Designed and implemented fully automated hydroponic fertigation and drip irrigation systems integrated with Autogrow control systems **based on performance metrics**.

Research and Teaching Assistant, University of Colorado. Sept. 2004 – May 2006

- Assisted in the setup of two meteorological tower stations by **collecting relevant environmental data** for soil hydrology parameters.
- Designed field sites for experiments while **processing all collected data** to ensure accuracy. Installed and maintained instrumentation used for research purposes;

EDUCATION

MSc (Geological Sciences) 2007

University of Colorado, Boulder, CO

- **Thesis**: Determining the influence of antecedent soil moisture conditions on rates of plant water use

BA (EPOBiology and Environmental Studies) 2004

University of Colorado, Boulder, CO

- Independent Snow Hydrology Project – **Analyzed data** to quantify the effects of snow sublimation from the forest canopy on local water yields

COURSES, CERTIFICATES AND QUALIFICATIONS

Data Science Professional Certification Present

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 & visualization. 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 an ML pipeline onto a live website using Streamlit. Using Tableau to create powerful Data Visualizations. Turning business problems into Data Science solutions.