**Project: Mailer Quality vs. Membership Growth (A/B Testing) Objective:** Used A/B testing to determine if higher-cost mailers significantly increased loyalty program sign-ups. **Tools:** SciPy chi2\_contingency **Outcome:** Found no statistically significant difference, suggesting cost-saving potential with cheaper mailers.

**Project: Predicting Missing Customer Loyalty Scores. Objective:** Developed a predictive model to estimate missing customer loyalty scores and identify key influencing factors for ABC Grocery. **Tools:** Scikit-learn Random Forest Regressor, Matplotlib. **Outcome:** Successfully filled data gaps, enabling personalized customer engagement and optimized loyalty program ROI.

**Project: Predicting Delivery Club Sign-ups. Objective:** Built a classification model to predict which customers are most likely to join ABC Grocery's "Delivery Club." **Tools:**Scikit-learn: KNN, RFECV for robust model development and feature engineering. **Outcome:** Delivered actionable insights on key customer drivers, enabling optimized marketing and targeted outreach.

**Project: Customer Classification for Marketing (K-Means Clustering). Objective:** Segmented ABC Grocery's customer base by identifying distinct groups with similar purchasing behaviors. **Tools:** Scikit-learn K-Means, MinMaxScaler; Matplotlib for clustering and data visualization. **Outcome:** Created actionable customer profiles to enable targeted marketing strategies and personalized engagement.

**Project: New Product Promotion - Album Purchase Prediction. Objective:** Built a predictive model to identify customers likely to purchase a new music album based on their listening habits. **Tools:** Scikit-learn: PCA, RandomForestClassifier, StandardScaler for dimensionality reduction and classification. **Outcome:** Developed an efficient model for targeted promotion by leveraging PCA to condense 100+ artist features.

**Project: Insurance Licensing & Product Training RAG Assistant. Objective:** Developed an AI-powered Retrieval-Augmented Generation (RAG) assistant for insurance professionals. **Tools:** Streamlit, Langchain, PyMuPDF, ChromaDB, OpenAI for PDF processing, vector search, and LLM integration. **Outcome:** Created an interactive tool that streamlines knowledge retrieval and personalized quiz generation from domain-specific documents.

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# TIM

# ZIEBART

# D A T A S C I E N C E | A N A L Y T I C S | MACHINE LEARNING

I am passionate about **solving business problems** using Data Science & Analytics (and a healthy dose of Machine Learning). Drawing on decades of experience transforming complex data into actionable insights and pioneering technological solutions for diverse industries, from Fortune 500 companies to small businesses

# MOTIVATION

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

**Tools:** Excel, Tableau, Github, MySQL, Google AI Studio and NotebookLM.

**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

# SK I LL S

# & TOOLS

# PR OJ EC TS

# Data Analyst - ABC Grocery

# EXPERIENCE

March 2024 to Present - Life Insurance Advisor/Trainer – iA Financial Group. Duties: Training agents upgrading skills and helping new clients find solutions to their insurance needs.

January 2014 to December 2023 - Regional LLQP Instructor | Sales Force Trainer | Technical Analyst | La Capitale Financial Security. Duties: **Instructional Design, developed and delivered training** on complex insurance products and sales methodologies (LLQP program, A&S Health). Results: 95% Pass Rate for 200+ agents. **System & Technical Support**: Provided critical technical support for diverse operating systems (Windows, MacOS, Android, iOS), Office 365, and proprietary tools, involving systematic troubleshooting and user problem-solving.

January 2011 to December 2013 - **Solution Prototyping & Web Development**: Independently designed and built prototypes for web applications (e.g., Real Estate Web Application using Pharo Smalltalk, Seaside, JQuery) and managed multiple WordPress sites using PHP, CSS, and JavaScript. Managed mixed-OS network infrastructure for a non-profit, including server and desktop administration.

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# ZIEBART

# D A T A S C I E N C E | A N A L Y T I C S | MACHINE LEARNING

# EXPERIENCE

# (CON’T)

June 2012 - February 2013 - **Business Analyst | Technical Consultant** | SydneyPLUS International. Duties: Consulted on Argus.NET museum management software implementations, translating client requirements into technical documentation, training manuals, and demo databases.

September 2004 – December 2010- Mortgage Solutions Analyst & System Implementer | BC Mortgage Connection Corp. Duties: Performed client needs analysis, assessing financial situations to optimize mortgage options from a pool of 25+ lenders. Designed and implemented internal systems and software to streamline business operations, demonstrating proficiency in process automation and data management.

February 1989 – September 2004 - **Sales Engineer | Software Engineer** | SydneyPLUS International – Richmond, BC Duties: Complex Systems Integration: 15 years experience with Fortune 500 clients, **integrating Knowledge Management systems from development to post-sales support. Technical Sales & Solutions Design**: Prepared and conducted technical sales presentations, built client-specific demo databases, and crafted detailed technical proposals mapping software capabilities to client needs, acting as a critical bridge between business problems and technical solutions.

**Data Conversion & Implementation**: Managed data review, conversion, and software installation during system implementations.

**Software & Infrastructure Support**: Provided on-site and remote technical support for software, infrastructure, and business processes.

# EDUCATION

# Diploma, Computer Programming - Control Data Corporation

# Associate Degree, Electronic Engineering Technology

# COURSES & CERTS

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 dashboards and data visualization.

## powerful Data Visualizations. Turning business problems into Data Science solutions.

**IBM Data Science Professional Certification**

Actionable Learnings: Frame data science problems and apply a structured methodology to solve them. Collect, clean, and transform diverse datasets using Python and relevant libraries. Perform **exploratory data analysis (EDA)** to uncover patterns and insights. **Visualize data effectively using Matplotlib, Seaborn,** and other tools. Query and manage relational databases proficiently using **SQL**. Build, train, and evaluate supervised machine learning models (**regression, classification) with Scikit-lear**n. Implement **unsupervised learning techniques like clustering.** Master Python and key libraries (**Pandas, NumPy, Scikit-learn**) for data science. Utilize data science tools like **Jupyter Notebooks, RStudio, and IBM Watson Studio.** Complete and present end-to-end data science projects, building a practical portfolio.

**IBM Data Analyst Professional Certification**

Actionable Learnings: Define data analysis projects by understanding business needs and questions.Collect, clean, and transform data from various sources for analysis. Perform exploratory data analysis **(EDA)** to identify trends and patterns. Master spreadsheet software **(Excel)** for advanced data tasks and **pivot tables**. Utilize SQL to query and manage data effectively within relational databases. Employ Python (with Pandas & NumPy) for data manipulation and analysis. Create impactful data visualizations (charts, graphs) to present findings. Develop and share clear reports and dashboards to communicate insights. Apply a data-driven, problem-solving mindset to analytical tasks. Build a portfolio of projects showcasing practical data analysis skills.