

Ho Kwan (Steven) Lio

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48 Cassila Way, Vaughan, ON L4H 4P2

(289)-788-2822

Qualifications

- Result-driven professional with 6+ years of experience in designing data workflows and extracting actionable insights to support cross-functional teams in strategic decision making
- Design efficient **data pipelines, features engineering**, implement advanced algorithms to support machine learning workflow in **Python** using libraries such as NumPy, Pandas, scikit-learn, Pytorch, Tensorflow
- Hands-on experience in **designing SQL queries** to process and aggregate large datasets, implement algorithms to summarize data in database management systems such as **MS SQL Server, Snowflakes, SAS**
- Design of **ETL** process to **handle structured and unstructured data** such as JSON, XML, audio and images
- Apply machine learning algorithms for classification, clustering, statistical inference, regression modeling, time series modeling, and A/B testing to **provide comprehensive data-driven analyses**
- Proficient in backend web applications development with **C#** in the .NET framework using Visual Studio
- Experienced in utilizing software engineering version control systems such as Git and Github along with Jenkins and JIRA to successfully drive production and deliver reliable CI/CD development pipelines
- Develop training workflows for convolution neural network (CNN) using Pytorch with Nvidia CUDA-enabled GPUs for image segmentation and categorization, optimizing model accuracy and memory usage
- Provide advanced actionable data analytics supporting research in marketing strategy including Customer Value Prediction and Segmentation, Sentiment Analysis, Market Potential and Shares Estimation and Competitor Analysis
- Skilled in combining technical expertise with compelling storytelling and producing dynamic data visualization tool using Tableau, PowerBI, ArcGIS and libraries such as Plotly, Dash, matplotlib and ggplot
- Detail-oriented and highly organized, with the ability to managing multiple tasks simultaneously to meet Ad-Hoc requirements and intensive deadlines in a fast-paced working environment

Professional Experience

Blueprint Software System

Toronto, ON

Data Scientist

Sep 2022 – June 2024

- Developed tailored backend solutions using .NET framework and C# within an Agile environment
- Refined algorithm for converting robotics process automation (RPA), achieving over 95% conversion
- Improved conversion capability, increasing conversions on leading RPA platforms fourfold
- Optimized backend SQL queries, stored procedures and data architecture for scalability and robustness
- Engineered data features and defined key metrics for monitoring application performance
- Created reports to assist CTO in strategic decision-making and identify key improvement opportunities for application performance in development

Quality Assurance Business Analyst

Apr 2021 – Aug 2022

- Developed data integration processes and constructed probability models for evaluating data quality
- Designed streamlined data pipeline and feature engineering process to consolidate usage data effectively
- Created testing and validation SQL scripts to analyze the performance of RPA processes conversion
- Collaborated with QA team to identify areas of improvement in the application and the accuracy of outputs

Bell Mobility

Mississauga, ON

Data Scientist

Jan 2020 – Dec 2020

- Utilized multivariate data models to predict customer lifetime value and devised effective marketing campaign strategies for identifying high-value market segments and enhancing customer acquisition quality
- Designed process for aggregating calling detail records and defined features to classify customer based on usage
- Analyzed sales and spatial data to estimate market size and revenue, and proposed optimal sales strategies
- Developed multi-class classification models for churn prediction and improved and enriched competitor analysis
- Performed text mining on online reviews and survey responses for sentiment analysis

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Bell Mobility

Mississauga, ON

Market Insight Analyst

Aug 2017 – Dec 2019

- Analyzed customer activity data to refine marketing focus and improve marketing campaign efficiency
- Leveraged sales transaction data to study promotional response and product category elasticity
- Forecasted sales trends, identified market share gap within specific customer and product segment
- Supported Pre & Post campaign analyzes and designed customized surveys to understand customer behaviors
- Design interactive dashboard with real-time data that provide comprehensive summaries for the analytics team

Environment and Climate Change Canada

Burlington, ON

Data QA Analyst

May 2016 – Apr 2017

- Designed data QA process and digitized 40+ years of Canadian Great Lakes freshwater quality data
 - Collaborated with project leaders and database managers to design and implement QA procedures
 - Assisted project leaders to identify suitable benchmarks for developing data quality guidelines
 - Identified patterns of anomalies and missing data in order to maintain data integrity
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Projects

Segmentation of Coral baby

Toronto, ON

Personal

Jan 2023 – Jun 2023

- Developed an image segmentation CNN under the U-Net architecture for identifying coral baby from images
- Transferred learning from Resnet50 with early stopping and achieved 90% IoU scores on validation set
- Designed image processing pipeline for streamline training data into the model and optimize memory usage
- Image preprocessed to create cleaned masks using OpenCV for the training and validation images

Photo of Photo Detection

Vancouver, BC

Trusting Pixels Inc.

May 2022 – Jun 2022

- Collaborated with a team to build a proof-of-concept ML model for detecting recaptured image
 - Assessed the performance of classification models including SVM, Logistic Regression, CNN model and best model achieved over 95% accuracy on validation images
 - Designed image preprocessed and assessed impact on model performance based on engineered features
 - Built an interactive Dash application in Python with the best model built-in for a dynamic image verification
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Education

The University of British Columbia

Vancouver, BC

Master of Data Science

Aug 2022

McMaster University

Hamilton, ON

Honors Bachelor of Science - Mathematics and Statistics Co-op

Aug 2016