

# ARDHENDU SINGH

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## CAREER OBJECTIVE

Highly accomplished and visionary professional with a proven track record of spearheading AI/ML initiatives within the Fintech industry. Recognized for exceptional leadership in driving teams to develop end-to-end solutions, with expertise extending across diverse domains, including NLP, ChatGPT, data science, database management, and AWS architecture. With a remarkable history of leading successful projects, I have overseen the development of cutting-edge systems, including an auto loan fraud detection platform, sales prediction models, and strategic product growth strategies. Eager to leverage my skills and experience to drive innovation and maximize business value in the dynamic landscape of AI/ML-powered industry.

## WORK EXPERIENCE

### Relevant Projects

- **Client-Centric Sales Strategy:** Collaborated cross-functionally with the product and sales teams, **utilizing** in-depth client data analysis to customize sales pitches. Demonstrated the value of various Point Predictive products to clients, resulting in enhanced communication and increased client engagement.
- **Strategic Market Segment Analysis:** Executed comprehensive market segment analysis to identify key **industry** segments and job titles, optimizing Launchable offerings for maximum impact. Contributed valuable insights into targeting strategies, improving overall product positioning.
- **Performance Metrics Development:** Engineered and implemented key performance indicators (KPIs) such as hit rate and lift to monitor and enhance the performance of machine learning models. Provided a systematic approach to dashboard creation and performance measurement, aiding in continuous improvement.
- **Cost Prediction Model:** Successfully built and deployed a robust time-series analysis-based cost prediction model. This initiative significantly enhanced forecasting accuracy, leading to more informed **decision**-making and improved resource allocation.
- **Sales Forecasting:** Developed and deployed advanced sales forecasting ARIMA time series models. This initiative contributed to the accuracy of sales predictions across multiple product categories, supporting strategic decision-making and resource planning.
- **Leadership and Team Management:** Led a team of six data scientists across the United States and India. Focused on release management, deployment, and skill coaching to drive efficiency and **innovation** within the team. Presented weekly progress updates to the executive team, ensuring alignment with overall business goals.

### POINT PREDICTIVE, SAN DIEGO, CALIFORNIA

Senior Data Scientist, Feb 2021 - Present

- **Fraud detection model:** Spearheaded the development and deployment of a robust XGBoost model for loan fraud detection, generating over \$1 million in ARR.
- **AWS Spot computing:** Implemented cost-effective AWS Spot computing solutions, resulting in annual savings of \$60,000 for model building.
- **Data Migration:** Successfully migrated the company database from AWS RedShift to Snowflake, enhancing data management efficiency.
- **LLM and unstructured data in loan fraud:** Led the design and implementation of an innovative solution for consolidating millions of records using NLP and Large Language Model.
- **ChatGPT:** Developed a ChatGPT application enabling natural language queries and data extraction from **internal** databases using prompt engineering and langchain SQL tool.
- **Deep Learning model:** Built a deep learning fraud detection model using PyTorch and Fast.ai, optimizing 35 million parameters.
- **DevOps:** Demonstrated expertise in DevOps tools such as MLFlow, Docker, Terraform, SQL, SageMaker, and Jenkins.

**LAUNCHABLE, SAN JOSE, CALIFORNIA**

Lead Data Scientist, Mar 2020 – Jan 2021

- **Test case analysis:** Utilized PySpark to build an XGBoost model for test case analysis, predicting the impact of code changes on test case failure.
- **Customer Segmentation:** Conducted customer segmentation by analyzing source code changes and test suite data from GitHub/Jenkins.

**APPLIED MATERIAL (COGNIZANT), SANTA CLARA, CALIFORNIA**

Lead Data Scientist in Center of Excellence AI/ML Division, Jan 2019 - Mar 2020

- **Text Analytics:** Built and deployed a U.S. tariff prediction model using text analytics, resulting in annual savings of more than \$700K.

**CISCO, MORRISVILLE, NORTH CAROLINA**

Senior Software Engineer, Jun 2007 – Dec 2018

- **Automatic Speech Recognition (ASR/NLP):** Developed a deep neural network for keyword spotting using depth wise separable CNN (DS-CNN) and Connectionist temporal classification (CTC) using Mel-frequency cepstral coefficients (MFCC).
- **Alexa skill (NLP):** Build Alexa skill to retrieve information from web pages stored, parsed, and analyzed by IBM Watson conversational skill. Connected Alexa queries to IBM Watson conversational service through an intermediary web server supporting REST API using Node.js framework. Presented in NC-DataPalooza.
- **Conference Room occupancy (NLP):** Built two predictive models using the Hidden Markov Model (HMM) and LSTM to analyze gigabytes of big audio data generated by Cisco conference phones predicting whether a conference room is occupied.
- **Predict service renewal:** Building a prediction model for Cisco's eight-billion-dollar annual service renewal business using XGBoost decision tree and neural network RNN with data size more than 20 Gigabytes with millions of observations.

**EDUCATION****Associate of Data Science****Artificial Intelligence Nanodegree****Master of Science** (Computer of Engineering), not completed**Bachelor of Engineering** (Computer Engineering)

North Carolina State University, Raleigh

Udacity

University of Cincinnati

Delhi Institute of Technology

**ADDITIONAL SKILLS**

- **Agile:** 5 years of working with and driving project using Agile methodology
- **Programming:** Proficient in Python (8 years), PyTorch, PySpark, NLTK, Scikit-Learn, TensorFlow, Keras, C++, Java
- **Visualization tool:** Tableau, matplotlib, Plotly
- **Analytical and Statistical Skills:** Text Mining, descriptive and inferential statistics
- **Machine Learning:** Deep Neural Network: RNN, LSTM, CNN, Bi-Directional RNN encoder/decoder
- **Classification:** KNN, SVM, Decision Tree
- **Cluster analysis:** Hierarchical, K-mean, DBSCAN, Bi-Cluster
- **Dimensionality Reduction:** PCA, LDA, kernel PCA

**PROFESSIONAL EXPERIENCE****ENTREPRENEURSHIP****Co-founder**

May 2015 - Dec 2015

Opened a start-up with two of my partners. Developed an analytical software that would allow Accountable Care Organization (ACO) dealing with retirees and senior citizens to identify patients that may become ACO's highest cost incurring patient and thus helping ACO to take preventive measures to reduce cost.

**Product Owner (Cisco)**

May 2011 - Apr 2012

Defined marketing and product requirements for AppHQ, a Cisco-developed android app store for enterprise devices. Helped in negotiation between PartnerPedia and Cisco to reduce the development cost of AppHQ to \$100,000 and from \$110,000. Designed and managed GoTo Market support for AppHQ. Helped in creating a three-tier pricing strategy for AppHQ that

includes free trial, discount, and setup fee. Helped in developing the ordering process and sustaining of AppHQ. Worked with the legal team and Advance Service for license management for AppHQ.

**LINKEDIN  
BLOG**

- <https://www.linkedin.com/in/ardhendu-singh/>
- <http://blog.machinelearningatwork.com>
- <https://github.com/ardsingh>