

ERNEST KIRUBAKARAN SELVARAJ

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Seeking challenging leadership assignments in Data Science / Machine Learning

Professional Summary

Accomplished technology professional with 16 plus years of experience in end-to-end data science and AI engagements, business strategy, and building high-performing teams. Experienced in building transformational machine learning initiatives in multiple domains, including ad-tech, automotive, manufacturing, telecom, banking and retail. Led R&D teams in the development of novel, futuristic applications in the areas of ad-tech, computer vision, machine learning, and natural language processing. Experienced in business development and relationship management of Fortune Global clients.

Skills

- Data Science, Machine Learning, AI
- Deep Learning, Neural Networks
- Computer Vision, NLP
- Reinforcement Learning
- Leading AI and Machine Learning Initiatives
- AI and Data Strategy
- Client Relationship Management, Business Development
- Leadership and People Development

Experience

Apr '18 – Mar '22 **Organization : Zeotap India Pvt. Ltd.**
Designation : Principal Data Scientist

- Lead the data science practice and manage a team of data scientists engaged in ideating, creating, researching, leveraging state-of-the-art machine learning algorithms;
- Identify company-wise opportunities and recommend technology strategies for various business initiatives;
- Conduct research on business-critical topics;
- Collaborate tightly with the product team to improve customer experience and expand product offerings;
- Oversee monitoring and improvement of live production data science models;
- Work closely with the sales team in identifying new opportunities and develop go-to-market strategies;

Oct '16 – Apr '18 **Organization : Harman Connected Services**
Designation : Manager Data Scientist

- Lead the data science team (~25 people) of a \$15 million engagement in research, data mining, machine learning, predictive modelling, and other quantitative analyses;
- Handle end-to-end delivery of Data Science/Machine Learning projects;
- Mentor, guide and review architecture, data science approach and methodologies and helps the team make better-informed decisions on the design and implementation;
- Engage in collaborative research with partner and client organizations;
- Partner with sales team to develop new business with existing and new clients;
- Mentor and guide Data Scientists at various levels;

Jan '15 – Oct '16 **Organization : Customer Analytics India Pvt Ltd**
Designation : Sr. Data Analyst

- Analyse large data sets, apply machine learning techniques and develop predictive models for optimization and new strategy development;
- Develop and enhance statistical models by leveraging best-in-class modelling techniques;
- Decipher client problems from varied verticals into actionable analysis and develop data-driven solutions for business problems;
- Create reports and dashboards for monitoring operational effectiveness and performance;

Prior Experience

- **Business Analyst**, HCL Technologies – April 2012 to January 2015
- **Business Consultant**, Temenos India Pvt Ltd – October 2010 to April 2012
- **Senior Associate**, Citigroup Global Services Ltd – August 2006 to June 2008
- **Officer**, Standard Chartered Scope International – August 2004 to July 2006

Significant Projects

Look-alike Audience Extension System

The scope of this project is to build a look-alike audience extension system that works well with high sparsity data and can scale to millions of records. A novel graph-based approach was used to build the system which gives near real-time prediction. The model improved the average CTR from 1.67% to 7.38%.

Goldset – Data Quality from Aggregated Advertisement Data

This project involves assessing the data quality of advertisement data sourced from various data partners by applying a novel Bayesian method which aggregates probabilistic predictions. The project resulted in an increase in data quality, measured by campaign performance.

Publications / Patents

- Ernest Kirubakaran Selvaraj, Tushar Agarwal, Nilamadhava Mohapatra, Swapnasarit Sahu. 2021. **Multigraph Approach Towards a Scalable, Ro-bust look-alike Audience Extension System**. In AdKDD '21: The 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, August 2021, Singapore.
- **Data Correctness Optimization**
US Patent Application Number: US 16/878,713
Application Date: April 2020
Status: Patent Pending

Tool Proficiency

Machine Learning	Regression, Classification, K-Nearest Neighbors KNN, Bayesian Methods, Support Vector Machines SVM, Decision Trees, Random Forest, Gradient Boosting Machine, K-Means Clustering, Hierarchical Clustering, Neural Networks, Deep Learning, NLP, Computer Vision, Reinforcement Learning, CNN, RNN, LSTM, GRU, DQN, Recommender Systems
Statistical Methods	Hypothesis Testing & Confidence Intervals, Dimensionality Reduction, Principal Component Analysis, AB Testing
Programming Languages	Python, C, C++, PySpark, Matlab, Octave, R, SQL
Business Domains	Ad-tech, Telecom, Automotive, Retail, e-commerce, Manufacturing, Banking
Data Visualization	ggplot(R), matplotlib(python), seaborn
Other Techniques	Text Mining, Natural Language Processing NLP, Language Modeling, Time Series Analysis, Recommender Systems, Anomaly Detection, Segmentation, Sentiment Analysis, Embeddings, Graph Machine Learning
Cloud Computing	AWS, Azure ML
Deep Learning Packages	PyTorch, TensorFlow, Keras

Education

2010 MBA (Finance/Systems) from Bharathidasan Institute of Management (BIM), Trichy
2004 M.Sc. (Applied Physics) from Bharathiar University, Coimbatore