Min Sup Lee

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Work Experience

State Farm Insurance Co., *Lead Data Scientist* *Bloomington, IL, July 2020 – Current*

- Co-invented a patented RAG-based GenAI application, optimizing chunking, prompt engineering, and retrieval efficiency for enhanced adaptability across business functions.
- Implemented scalable LLM evaluation pipeline and monitoring frameworks, standardizing usability, addressability, company compliance, and real-world reliability.
- Implemented LLM Agents with CrewAI to scale out input contexts and improve task automation in GenAI applications.
- Designed A/B tests, demonstrating GenAI's 5% AHT reduction ($2M/yr cost savings) and driving enterprise-wide adoption.
- Developed and maintained a predictive model evaluating agent office performance over three years, overseeing the full ML lifecycle for 3+ years.
- Designed a web-based UI with secure credential management, automated data updates, and scalable PVC storage, reducing user engagement time by 90% while improving data integrity and system reliability.
- Built and managed a zip-code-level opportunity scoring model for 2+ years, leveraging multi-source data to support strategic Auto Policy growth decisions.

Soothsayer Analytics, *Data Scientist* *Livonia, MI, May 2019 – Apr 2020*

- Developed a Python-based forecasting framework leveraging Time Series models (ARIMA, Holt-Winters, TBATS, Prophet), XGBoost, and Neural Networks for a $5B manufacturing client.
- Built a classification model to predict comfort temperature settings, enhancing climate control system optimization.
- Optimized manufacturing process for an $8.4B chemical client, increasing efficiency by 20%, reducing waste by 10%.

Anheuser-Busch InBev, *Data Science Intern* *Champaign, IL, May 2018 – Feb 2019*

- Identified key drivers of sales volume of cities in Brazil and South Africa individually using 2 years' worth sales data, Google Analytics data, and additional custom data for each region

Oh Pharmaceutical, *Project Coordinator* *Crown Point, IN, July 2016 – Dec 2016*

- Optimized the contractor budget to reduce cost up to 20% in $40M project

Education

University of Illinois, Urbana-Champaign

- M.S. in *Statistics – Analytics* *Dec 2018*
- B.S. in *Industrial Engineering* & B.S. in *Statistics* *May 2016*

Academic Project

Predictive Analytics on Financial Data *Fall 2018*

- Engineered Financial data and articles to run ML/DL algorithms using H2O, Keras, and TensorFlow in R
- Placed 1st/12 teams with a Stacked Ensemble model that achieved 77.9% accuracy with 0.881 AUC (Bitcoin Data)
- Predicted stock movements in 3 directions using CNN, RNN, HRNN with up to 51% accuracy (CME LOB) on AWS

Clustering Gene Expressions by Ontology Annotation *Spring 2018*

- Applied Network Analysis and Clustering methods to identify ontology annotations using R and Python

Predictive Analytics using Monte Carlo Algorithm *Fall 2017*

- Predicted the exchange currency trend of Ruble to USD using sampling methods and Monte Carlo Markov Chain (up to 82% training accuracy)

Production Schedule Optimization for Cost Reduction (Client: Anheuser-Busch InBev) *Fall 2015*

- Built a prototype production control system that reduced the production cost up to 15% using VBA, R, and Excel

Certificate / Skill

AWS Certified Machine Learning – Specialty

Python, R, SQL, TensorFlow, SSMS, Azure Data Factory, Databricks, Spark, **AWS, Tableau, Power BI**, H2O, SAS, AutoCAD, SIGMA, HDFS, Pig, Hive