

SHREECHARRAN SUNDAR

455 14th ST NW, Atlanta, Georgia 30318

☎ 470-633-6043 ✉ shreecharransundar26@gmail.com [LinkedIn](#) [sssundar26](#) [sssundar26](#)

EDUCATION

Georgia Institute of Technology | GPA: 4.0/4.0

Dec 2022 (Expected)

M.S. Operations Research

Atlanta, Georgia

Coursework : Machine Learning, Deep Learning, Time Series Analysis, Probabilistic modeling, Business Analytics

Indian Institute of Technology, Madras | CGPA: 9.18/10.0

Aug 2017 – Jun 2021

B.Tech Chemical Engineering

Chennai, India

EXPERIENCE

Beta Bionics

May 2022 – Aug 2022

Data Scientist Intern, Digital Products

Irvine, California

- Performed **data mining, cleaning, aggregation and statistical analysis** of unstructured clinical trial data (device logs) to generate KPI's for monitoring user engagement and experience with Beta Bionics's patented iLet device
- Designed **business intelligence dashboards** and data visualization solutions using Matplotlib and Plotly Dash
- Conceptualized machine learning based **anomaly detection algorithm** for estimating time to device failure, that outperformed existing algorithm through **20%** reduction in *Mean Absolute Error*
- Contributed to new ideations on analytical product enhancements in daily product scrum and sprint planning sessions

Hindustan Unilever Limited

Apr 2020 – Jun 2020

Unilever Leadership Internship Program- Supply Chain Optimization

Mumbai, India

- Proposed technical solutions for effecting **operational transformation** of Pepsi-Lipton ready to drink business
- Developed **data driven models** for simulating throughput yield and energy consumption of tea manufacturing plants
- Determined optimal operating conditions, through parametric studies on developed models, for achieving **10%** increment in yield and **3%** reduction in energy consumption over existing levels

PROJECTS

Prediction Modeling for COVID-19 Decision Making | LSTM, ARIMA, GARCH, VAR, Ensemble methods

- Designed accurate **long-term and short-term epidemic forecasting** (COVID-19 cases) models, incorporating human mobility dynamics and disease transmission levels (CDC).
- Constructed **ensemble prediction framework** for combining forecasts from multiple predictive models, built using combination of **stochastic methods** (ARIMA/GARCH) and **deep learning techniques** (LSTM)
- Achieved *MAPE* of **35%** and **41%** for 7-day and 21-day forward forecasts respectively, thereby providing public health policy makers and medical providers with valuable lead time for planning appropriate interventions

High Dimensional Data Science- Algorithms and Applications | Functional data, Computer Vision, Tensor decomposition

- Implemented **Robust PCA** with **ADMM optimization algorithm** for **object detection** in noisy background
- Designed classification algorithm for high dimensional datasets that achieved 98% accuracy, utilizing **tensor decomposition** for **dimensionality reduction** and feature extraction
- Utilized Splines and Kernel smoothing regression techniques for low dimensional learning from longitudinal data

Pattern Recognition and Machine Learning | Supervised and Unsupervised learning algorithms

- Applied **K-means** and **K-medoids** clustering algorithm for achieving high resolution image compression by 40%
- Performed topic-based document classification using **Expectation-Maximization** algorithm for text clustering
- Developed **personalized recommendation system** from Netflix ratings dataset using low rank matrix factorization (SVD++) & convex optimization techniques to achieve low RMSE scores on test dataset
- Implemented algorithm for capturing temporal trends in S&P 500 stock market data using **Hidden Markov models**

SKILLS

Languages: SQL, Python (Pandas, PySpark, Sklearn, Tensorflow, OpenCV, Gurobi), R, MATLAB, C++, HTML

Statistical Testing: Hypothesis testing, A/B Testing, ANOVA, Time Series Analysis, Confidence Intervals

Predictive Analytics: Regression (Linear/Ridge/Lasso), Linear Programming, Random Forest, SVM, Neural Networks, Gradient Boosting, Data Pipeline (Data Mining, Data Wrangling, Data modeling, Data Visualization and Documentation)

Data Visualization: Tableau, Matplotlib, Seaborn, Plotly, ggplot2

LEADERSHIP

Graduate Teaching Assistant | High Dimensional Data Analytics

Aug 2022 - Present

- Assisting primary instructor in designing interactive course modules and managing class of 200+ students
- Improving student learning outcomes through office hours and addressing doubts around the clock on Piazza platform