Prakash Sudhakar

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Education

Arizona State University – M.S in Industrial Engineering (**Focus:** Statistics & Data Science) **GPA – 3.5/4.0** **Expected May 2021**
Coursework: Deterministic Operations Research, Statistical Data Mining, Applied Data Science, Time Series Analysis and Forecasting, Regression Analysis, Design of Experiments, Information Management Systems, Supply Chain Modeling.
Anna University – B.E in Mechanical Engineering (**Focus:** Operations Research) **GPA – 8.4/10** **2015 – 2019**
Thesis: Universiti Sains Malaysia - Optimization of Microchannel Heat Sink using Plate fins at different concentrations of Al_2O_3 Nanofluid.

Skills

Languages: Python, R, C, C++
Frameworks: NumPy, Pandas, Matplotlib, Seaborn, SciKit-Learn, Tensorflow, Keras, PyTorch, BeautifulSoup
Tools: Google Cloud Platform, Minitab, JMP Pro, SAS Studio, AMPL, Advanced Excel, Alteryx, JIRA, Git, Docker, Confluence
ETL & Visualization: Tableau, Power BI, Google Analytics, Data Studio
Database & Big Data: Oracle SQL, MySQL, SQL Server, Toad, MongoDB, AWS Redshift, MS Access, Hadoop - Mapreduce

Certifications

Tableau Certified Specialist Desktop (In progress), Data Science Professional Certificate **(IBM)**, Deep Learning Specialization **(Deeplearning.ai)**, Machine Learning **(Stanford University)**, Lean Six Sigma Green Belt **(KPMG)**

Industry Experience

Fellowship.AI – Machine Learning Fellow (San Francisco, California) **May'2020 – Present**

- Working with clients from various industries ranging from Healthcare, Fashion and Fintech to build an end to end machine learning solutions from initial modeling to production.
- **Wound Tissue Analysis:** Worked with **Grossman Burn Center** to develop a Wound/Burn Classification App for first responders.
- **Website Optimization:** Analyzed A/B tests & Multi-Armed Bandits to improve the customer conversion rate on **Platform.AI**.

Graduate College – Arizona State University – Data Analyst (Tempe, Arizona) **Sep'2019 – May'2020**

- Designed interactive dashboards using **Tableau** and **Kepler.GL** to generate insights into student enrollment & staff data at ASU.
- Improved efficiency of **SQL** queries & fixed slow running queries, reducing the time required to generate data integrity reports.
- Conducted data quality analysis on large data sets by leveraging **Alteryx** to identify data consistency & integrity. Produced technical documentation to business stakeholders and teams to improve business strategies.
- Analyzed **qualitative research** and surveys of Ph.D. Alumni using **QDA Miner** to better understand alumni operations.

Caterpillar – Industrial Engineering Intern (Chennai, India) **May'2018 – June'2018**

- Resolved issues in the assembly line by implementing **improvised SOP** & work instructions to reduce the cycle time by **3 percent**
- Assisted in manufacturing process implementation for **NPI** on transmission and final drive assemblies for **777E & 773E** Titan.
- Reduced **non-value-added** time by **optimizing** the **manufacturing BOM** based on Teamcenter 3D models & consolidate materials to ideal workstations at the inbound logistics unit.

Project Work

Route Planning & Optimization: Developed an optimization model to solve the Traveling Salesman Problem with Branch & Cut, Sub-Tour Elimination and Add & Swap Heuristics using AMPL & CPLEX Solver.
Battle of Neighborhood – Capstone Project: Segmented the neighborhoods in Arizona based on the customer's search query using K-Means Clustering to make recommendations to the client to open a new Coffee Shop. Web scraped using Beautiful Soup & used Foursquare API to query nearby venues and performed geospatial analysis using Folium and Geopy packages.
Image Recognition: Trained CNN from scratch with various optimizers using Keras and compared its accuracy to the predictive ML models after performing PCA. Fine-tuned pre-trained VGG 16 to improve accuracy to about 89% using Transfer Learning.
Time Series Forecasting: Performed SARIMA, Holt-Winters, Transfer Function models to analyze and forecast the climate data using JMP with MAPE value of 3.78. Studied the ACF and PACF plots to understand the behavior & stationarity of the process.
Avocado Price Prediction: Analyzed and interpreted seasonal & trend pattern of weekly sales of Avocado prices. Implemented Facebook Prophet to predict future fluctuations in sales over the next 2 years.
Credit Card Fraud Detection: Implemented ANN**,** ensemble learning and ML models for detection of fraudulent transactions and achieved an accuracy of 99.6%. Resolved the class imbalance by incorporating resampling techniques and SMOTE.
Decision Support System: Designed a relational database using E-R modeling and normalization techniques in MySQL workbench to capture data generated in a marble factory. Developed a GUI using VisualBasic.NET that allows users to access the database through dynamic web pages.