# MALLIKA SINHA

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## EDUCATION

**North Carolina State University,** Raleigh, NC *August 2018 - May 2020*
**Master of Science** in Integrated Manufacturing Systems Engineering, **Minor** in Statistics *GPA of 4.0/4.0*
Courses: Stochastic Models, Statistics for Engineer II, Operation Research, Production Planning, Python, Multivariate and Longitudinal analysis, Database Applications, Applied Time Series, Lean Six Sigma, Neural Network

**VIT University,** Vellore, Tamil Nadu, India *July 2012 - June 2016*
**Bachelor of Technology** in Electrical and Electronics Engineering *GPA of 9.05/10.0*

## TECHNICAL SKILLS

- Analysis Tools: Python, R, T-SQL, VBA, Excel Power Query, SAS, Visual Studio, Minitab and JMP
- Reporting Tools: Advanced Excel, Access, Visio, MicroStrategy, SQL Reporting, Power BI, and Tableau
- Others: Machine Learning, Supply Chain, Time Series Forecasting, MS Office and LaTex
- Certification: Neural Networks & Deep Learning using Python, Lean Six Sigma Black Belt Certified

## RESEARCH EXPERIENCE

**John Deere Turf Care,** Graduate Research Assistant Raleigh, NC *May 2019 - Present*

- Examined the SQL database and stored procedures for the analysis of data collecting from Visual Studio
- Integrated a code for multiple models and stations in a C# based application to improve factory shutdown recovery time by 15.3% with one fundamental code
- Designed SQL Reporting and Tableau for data visualization of defects and overrides data to track monthly progress
- Performed Lean Six Sigma project on reduction of mistake proofing overrides for camera and torque tool with complete statistical analysis leading to increase in throughput line by 579.33 min/month/employee on an average
- Created a VBA based paint load scheduling application for optimized scheduling with 20% manual time reduction

## PROFESSIONAL EXPERIENCE

**Student Consultant, United Parcel Services,** NC, USA *January2019 - April 2019*

- Implemented Data Mining of financial information using Python to create the database in Access and created interactive Database application for UPS to visualize the company's standing with the benchmark

**Student Consultant, Lenovo,** NC, USA August 2018 - December 2018

- Performed data cleaning, and preliminary data analysis to understand the evolution of sentiment over time and proposed dimension reduction with regression for evaluation of prediction equation with 5.34% error rate

**Business Operation Associate, ZS Associate,** Pune, India *January 2018 - June 2018*

- Delved in Business Intelligence and the basic concepts of Data management in US pharmaceutical industry
- Assessed the weekly data in MySQL and MicroStrategy to provide analytical and statistical support to the client
- Created compelling user interactive dashboards in Excel with macros to automate the weekly analysis for the client
- Worked on fields like QC Validations, Impact Analysis, Data Quality Management Framework, Targeting & Segmentation, Incentive Compensation, and Rep Alignment

## ACADEMIC PROJECTS

**Leaf wilting detection in soybean** *January 2020 - Present*

- Predicted the five different image labels of wilted soya crop collected during the different time of the day with hand crafted machine learning and optimized with the hyperparameter technique and deep learning

**Hottest Topics in Machine Learning and Naïve Bees prediction** *August 2019 - December 2019*

- Manipulated big data frame and image with pandas, numpy, scikit-learn, keras, and pillow packages, created prediction model and implemented deep learning NLP & CNN to make more robust models

**Time Series Analysis of Bike Sharing System** *August 2019 - December 2019*

- Forecasted a time series-based data set using SAS PROC ARIMA with the concept of seasonality and transfer function to calculate forecasted value with minimum mean square error in the selected model.

**Bankruptcy Prediction of a company based on its econometric measures** *March 2019 - April 2019*

- Applied PCA to perform predictor reduction and obtain relevant features to estimate the apparent error for different methods like logistics regression, regression tree, K-nearest, support vector machine and neural network to predict bankruptcy with ~99.4% accuracy using R