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SKILLS SUMMARY

 Python

 Data Science and Analytics

 Machine Learning

 Statistics

 Jupyter

 SQL

 R

 Kubernetes

 Matlab

KEY COURSES

 Data Science and Analytics

 Machine Learning

 Data Mining

 Data Science in Manufacturing Quality Control

 Data Analysis and Interpretation

AKHILESH SANJAY SOMANI

Master of Science

University of Illinois at Urbana-Champaign

I am passionate about solving real-world problems using my experience in data science & analytics and my expertise in engineering.

TECHNICAL EXPERIENCE

Data Science Internship

Corteva Agriscience | May 2020 - Aug 2020

- Predicted transgene expressions in genetically engineered crops using ML
- Implemented and compared performances and prediction results of numerous statistical tools & machine learning models
- Developed an interactive R-Shiny dashboard to assist biologists before conducting experiments, to save time & money
- Used Kubernetes for faster execution of deep learning models on GPU cluster

Data Science Projects

University of Illinois at Urbana-Champaign | Jan 2020 - May 2020

- (1) Unsupervised Stool Sample Analysis for Liver Cirrhosis:
 - Constructed Bayesian Networks from scratch to clean raw data
 - Performed dimensionality reduction (PCA) & clustering (KMeans, GMM, Hierarchical) to successfully identify 20 abnormal microbes (out of 150)
- (2) Data Analytics in High-Performance Computing Security:
 - Identified the likely states of multi-stage attacks using Hidden Markov Models and Factor Graphs
- (3) Quantitative Analysis of Stock Market:
 - Accomplished feature engineering, PCA, LDA, and clustering for automated sector-identification of S&P 500 Index stocks
 - Programmed Keras LSTMs to attempt to predict future stock prices
- (4) Autonomous Vehicle (AV) Safety Analysis:
 - Conducted statistical testings to compare AVs' performance with humans
 - Developed Naive Bayes Model to predict, with over 80% accuracy, causes of failure under different conditions

Data Analytics Internship

University of California at Berkeley | May 2017 - Jul 2017

- Experimented on control resistors in hard disks to analyze their protrusions
- Performed data pre-processing and analysis (using Matlab) to derive a linear relation between the nanoscale protrusions and power input of the resistor

Computational Modeling and Optimization Project

University of Illinois at Urbana-Champaign | Jan 2020 - May 2020

- Modeled the underlying physics, and simulated & visualized the motion of a slithering snake in Python
- Implemented Genetic Algorithm and CMA Evolution Strategy to optimize gait

EDUCATIONAL HISTORY

University of Illinois at Urbana-Champaign - May 2021

Master of Science in Mechanical Engineering

- GPA: 3.91/4.0

Indian Institute of Technology (IIT) Bombay - Aug 2019

Bachelor of Technology in Mechanical Engineering, Minor in Computer Science

- GPA: 9.16/10.0