Gowtham Senthil Kumar

gsenthilkum2@wisc.edu | (608) 982-5232| Madison, WI - 53703**
LinkedIn | GitHub

APPLIED ML | DATA ANALYTICS | MANUFACTURING

Education

UNIVERSITY OF WISCONSIN – MADISON Madison, WI
M.S. - Industrial Engineering: Systems Engineering and Analytics | GPA: 3.85/4.0 *expected* May 2023
Machine Learning, Data Analytics, Simulation Modelling

VELLORE INSTITUTE OF TECHNOLOGY Vellore, India
B. Tech. – Mechanical Engineering | GPA: 3.7/4.0 June 2020
Operations Research, Statistical Quality Control, Manufacturing Automation, Object Oriented Programming

Skills

Programming: Python, MATLAB, Julia, C, Java, R Studio, SQL, AWS (S3, Spark)

Python & ML Libraries: NumPy, Pandas, Matplotlib, Seaborn, SciKit-Learn, PyTorch, SciPy, TensorFlow, Gurobi

Analytics & Simulation: MS Excel, Tableau, MiniTab, Power BI, Arena, SolidWorks

ML & DL Techniques: Data Mining, ETL, Regression, Ensembles, Naïve Bayes, SVM, CNN, RNN

Research

FEAP LAB - UNIVERSITY OF WISCONSIN – MADISON Feb 2023 - *Present*

- **Surface Anomaly Detection from 3D point cloud data |** Python, TensorFlow, Google Cloud
  ***Finalist* -** DAIS Best Student Paper Competition (2023), IISE annual conference.
- **Classification of Pavement Defects using Deep Learning |** Python, Keras, Revo Studio
  Developed a CNN-based algorithm to classify surface level pavement defects, achieving a test accuracy of 97%, to enable additive manufacturing-based repair and restoration.

ACADEMIC PROJECTS

- **Predicting the 2022 FIFA World Cup |** Python, SciKit-Learn, Jupyter
  Simulated the 2022 FIFA Men's World Cup using logistic regression and ensembles to anticipate outcomes of games with 80% accuracy, easily outperforming ranking-based predictions.
- **Shift Scheduling for employees in a Medical Facility |** Julia, Gurobi
  Modelled a Mixed Integer Problem to minimize the 'shift preference loss' in scheduling employee hours, while fulfilling the organization's staffing requirements and historical shift patterns.
- **Impact of natural/man-made calamities on expenditure in food supply chain |** Tableau, MS Excel
  Analyzed $50 Billion drop-off in expenditure due to the 2008 economic recession and contrasted it to the impact of the COVID-19 pandemic with time series and regression analysis.

Experience

GODREJ STORAGE SOLUTIONS | Project Trainee/Intern Jun – Jul 2019 & Dec 2019 – Feb 2020

Integrated with the Quality Control department in a 6 - member team, utilizing Design of Experiments (DoE) and Analysis of Variance (ANOVA) to identify an 85% influence of a particular interaction effect that caused ~1mm (6.25%) error.

UNIVERSITY OF WISCONSIN – MADISON | Grader Jun – Aug 2022

Mentored class of 30 students for ISyE 575: Introduction to Quality Engineering for summer course cycle.

WISCONSIN UNION | Student Supervisor – Badger Market in Engineering Jan 2022 – *Present*

Managed 5-7 student workers to implement streamlined processes for inventory management and customer service, improving sales efficiency by 15% and heightening overall customer satisfaction.

Certifications

Machine Learning with Python | Data Analysis with Python | Mathematics for Machine Learning |
AWS Fundamentals | CSWA in Mechanical Design

** - willing to relocate