

GOWTHAM SENTHILKUMAR

| Tacoma, WA – 98402*

| www.github.com/gowtham291

| senthilkumar.gowtham2901@gmail.com

| www.linkedin.com/in/gowtham-senthilkumar/

Developing process improvement mechanisms and applying statistical methods to empower manufacturing and supply chain systems. Leveraging industrial data analytics to drive towards a sustainable future.

EDUCATION

University of Wisconsin – Madison

Madison, WI

M.S. - Industrial Engineering: Systems Engineering and Analytics | GPA: 3.86/4.0

May 2023

- Coursework Focus: Machine Learning, Optimization, Industrial Data Analytics, Simulation Modelling

Vellore Institute of Technology

Vellore, India

B. Tech. – Mechanical Engineering | GPA: 3.7/4.0

June 2020

- Coursework Focus: Operations Research, Statistical Quality Control

RESEARCH

FEAP Lab – University of Wisconsin, Madison

Feb – Aug 2023

- **Surface Anomaly Detection from 3D point cloud data** | Python, TensorFlow, Finalist - DAIS Best Student Paper Competition (2023), IISE annual conference.
- **Classification of Pavement Defects using Deep Learning** | Python, Keras, Revo Studio
Classification of two types of surface level defects in pavements, utilizing high-dimensional point cloud representations, to enable additive manufacturing-based repair and restoration.

Academic Research

- **Predicting the 2022 FIFA Men's and 2023 FIFA Women's World Cups** | Python, SciKit-Learn, Jupyter
Forecast of the world's biggest sporting spectacles by engineering temporal performance metrics of teams and anticipating outcomes using ensembles with 80% accuracy, easily outperforming ranking-based predictions.
- **Shift Scheduling for employees in a Medical Facility** | Julia, Gurobi
Formulation of a Mixed Integer Problem to minimize the "shift preference loss" to less than 5% in scheduling employee hours, fulfilling the simulated organization's staffing requirements and historical shift patterns.
- **Impact of natural/man-made calamities on expenditure in food supply chain** | Tableau, MS Excel
Investigation of a \$50 Billion drop-off in expenditure due to the 2008 economic recession and contrasting it to the impact of the COVID-19 pandemic, through time series and regression analysis.

EXPERIENCE

GDB International, Inc. | Industrial Engineer

Aug 2023 – Present

- Implementation of updated cellular layouts and time studies-driven procedural reforms, improving production rates by almost 50%, and creating avenues for investment in automation by reducing labor costs.

Godrej Storage Solutions | Project Trainee/Intern

Jun – Jul 2019 & Dec 2019 – Feb 2020

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

Wisconsin Union | Student Supervisor – Badger Market in Engineering

Jan 2022 – May 2023

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

CERTIFICATIONS

Machine Learning with Python | Data Analysis with Python | Mathematics for Machine Learning |

AWS Fundamentals | CSWA in Mechanical Design | RCRA Identifying Hazardous Wastes

SKILLS

Analytics & Simulation: Python, MATLAB, Julia, R Studio, MS Excel, Tableau, MiniTab, Arena, SolidWorks

Python & ML: Pandas, Matplotlib, SciKit-Learn, TensorFlow, Data Mining, Logistic Regression, Ensembles, CNN