

Gowtham Senthilkumar

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Adept at developing process improvement mechanisms and applying statistical methods to enhance manufacturing systems. Looking to leverage analytics to drive towards a sustainable future through manufacturing engineer roles.

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

EXPERIENCE

GDB International, Inc. | Industrial Engineer

Aug 2023 – Present

- Initiated a novel project to integrate a pseudo digital twin of the warehouse operations, identifying opportunities for performance gains by comparing against ideal FlexSim-simulated production lines.
- Implemented Lean Six Sigma mechanisms and human-centric upgrades to improve production by 50%, optimizing material flow in order to establish an automated production line.

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) to identify 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

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

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 sustainable 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
Forecasted 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.
- **Impact of natural/man-made calamities on expenditure in food supply chain** | Tableau, MS Excel
Investigated a \$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.

CERTIFICATIONS

Certified SolidWorks Associate(2019) in Mechanical Design | Machine Learning with Python | Data Analysis with Python | Mathematics for Machine Learning | AWS Fundamentals | RCRA Identifying Hazardous Wastes

SKILLS (with years of Professional/Research Experience)

Analytics & Data Science (2.5 yrs): Python, Julia, ML (Scikit-Learn, TensorFlow), Data Viz (Matplotlib, Tableau)

Simulation & Modeling (1.5 yrs): FlexSim, Arena Simulation, MiniTab

Design (1.5 yrs): SolidWorks, AutoCAD | **Business Tools (2 yrs):** MS Office Suite | **Additional:** Lean Six Sigma, Project Management, Cross-functional Collaboration