Vijay N Sharma

📞 +91 9867687399   ✉ get.vijaynsharma@gmail.com

EDUCATION

IIT Bombay	**Mumbai, India**
M.Tech, Industrial Engg. & Operations Research	*Aug 2018 - Jun 2020*
Mumbai University	**Mumbai, India**
B.E., Mechanical Engineering	*Aug 2012 - Jun 2016*

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, R, VBA, SQL
Libraries: Pandas, PySpark, NumPy, PuLp, Ortools, Sklearn, Plotly, Django, Flask, Gradio, SimPy, FastAPI
Tools & Softwares: Power BI, AnyLogic, MS Office, Git, Docker, Gurobi, AMPL, CPLEX
Key Courses: Integer Programming, Optimization Methods, Machine Learning, Reinforcement Learning

WORK EXPERIENCE

Jio Platforms Limited, Mumbai, India   **Sep 2022 - present**
Data Scientist - Operations Research

- **Warehouse Slotting:** Analyzed several warehouse processes, identified bottlenecks, and developed a MILP based heuristic slotting solution to ease the picking process and scaled the solution methodology for 30+ warehouses with different layout and business constraints; Observed pickers' travel distance reduction by up to 30%.
- **Pick Scheduling:** Improved the picking load and transportation cost for 20+ warehouses by scheduling the picking lines for mid mile delivery; Solution methodology includes clustering the delivery point using ML algorithm and assigning the days to customers using MILP formulation
- **Vehicle Routing:** Clustered the customers and developed a vehicle routing solution considering customer time window constraint, special vehicle requirement of customer and availability of special vehicles.
- **DC-Store assignment:** Analyzed the data and developed model to assign store to DC in order to minimize the cost considering different business operational constraints.
- Contributed in developing a centralized tool to solve the problems in retail business.
- Developed an MILP based tool to recommend office team schedule for hybrid work environment.

DHL Supply Chain, Mumbai, India   **Aug 2020 - Sep 2022**
Consultant

- **Network Optimization:** Developed an end-to-end Django based web app to perform greenfield and brownfield network analysis and solve network design problem after gathering different business constraints and requirements from different regional teams across the globe.
- **Transport Optimization:** Supported in developing a python based strategic tool, able to handle a large scale data for Freight and Fleet Optimization for North America team using Ant Colony Optimization.
- **Warehouse Pick Optimization:** Developed a python based tool which gives optimal sequence to visit the SKU picking location to minimize the total distance made by pickers.
- **Warehouse Simulation:** Developed a discrete event simulation model in AnyLogic for cluster pick and batch pick operation to visualize the congestion and bottlenecks in the warehouse to propose a better picking strategies.
- Developed Power BI dashboards from warehouse data for solution design team.
- Analyzed shipping data of warehouse and recommended the optimal set of carton to use to reduce shipping cost.

PUBLICATIONS

- Presented a simulation case study at AnyLogic conference 2021 on "Simulating a Cluster Pick Warehouse"   Link ▶
- Presented a paper titled, "Warehouse Slotting Optimization Considering SKU Correlation and Congestion in Aisle" at 2023-ORSI & 2023-ICBAI, IISc Bangalore, scheduled during 18-20 December 2023. Paper is considered to be published in International Journal of Operational Research (IJOR)   Link
- Co-authored a paper titled, "A Hybrid GA-PSO Based Hyper Parameter Optimization of a LSTM Network for Demand Forecasting of Retail Products", presented at 2023-ORSI & 2023-ICBAI, IISc Bangalore, scheduled during 18-20 December 2023. Paper is considered to be published in International Journal of Advanced Operations Management (IJAOM)   Link

EXTRACURRICULAR ACTIVITIES

- **Teaching Assistant** for **Optimization Method** at IIT Bombay during Aug 2019 - Nov 2020
- **Cultural Secretary** in IEOR dept., IIT Bombay during Aug 2019 - May 2020