Tharun Vipperla

tharunkrishnateja16113@gmail.com **LinkedIn** **GitHub**

Professional Summary

Software Development Engineer with 1.5 years of experience at o9 Solutions, specializing in the architecture of enterprise-scale supply chain planning systems. Expert in translating complex supply chain constraints into high-performance Python/PySpark engines for Fortune 500 clients. Deeply proficient in MRP logic, inventory optimization, and demand-side prioritization.

Experience

o9 Solutions *Bangalore, India*
Software Development Engineer *July 2024 – Present*

- **Material Resource Planning (MRP) Engine:** Designed and implemented multi-echelon planning algorithms to synchronize material flows across complex supply networks. Engineered logic to calculate net requirements by factoring in Bill of Materials (BOM), manufacturing lead times, and safety stock buffers, directly supporting global operations for **Danone**.
- **Inventory Rebalancing (IR) Systems:** Developed automated rebalancing frameworks that utilize real-time telemetry to detect regional stock imbalances. Implemented cost-optimized transfer logic to move inventory between global nodes, reducing excess stock-piling and improving service levels for **Mondelez**.
- **Demand Prioritization (DP) Logic:** Built mission-critical prioritization engines that resolve supply-demand conflicts during stock shortages. Developed weighted allocation algorithms based on customer tiers, contract penalties, and product margins to maximize enterprise revenue for **Apple**.
- **Agentic Workflows (MCP):** Integrated Model Context Protocol (MCP) to architect internal LLM agents capable of autonomous technical debugging and ticket resolution, reducing developer response time by streamlining the triage process.
- **Performance Engineering:** Optimized supply chain models using PySpark to process terabyte-scale datasets, ensuring high-performance execution of planning cycles for multi-billion dollar business units.

Awards & Impact

- **6x Corporate Excellence Awards:** Honored with 2 Spot, 2 Milestone, and 2 Hall of Fame Awards for exceptional technical delivery of core planning modules.
- **Hackathon Champion:** Secured 1st place for developing a high-efficiency algorithm to solve real-world logistical bottlenecks using advanced graph theory.

Technical Skills

- **Languages:** Python (Expert), PySpark, C++, SQL, JavaScript, HTML/CSS.
- **SCM Expertise:** Multi-Echelon Inventory Optimization (MEIO), MRP II, Demand-Supply Matching.
- **Tools:** Git, React, Unreal Engine 5, Godot, Blender, Model Context Protocol (MCP).

Education

NIT Calicut *2020 – 2024*
B.Tech in Computer Science and Engineering *Calicut, India*

- Core focus on Data Structures, Algorithms, and Distributed Systems.