

Balaji Balasubramania Sharma

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Supply chain and manufacturing professional with **3+ years** of experience across inventory control, MRO procurement, warehouse optimization, supplier coordination, and production support. Skilled in Oracle ERP, SQL, Power BI, Excel, Lean, 5S, and material-flow improvement, with a record of reducing stock-outs, improving on-time delivery, recovering inventory value, and supporting critical parts availability in manufacturing and transit operations.

EXPERIENCE

Supply Chain Engineer

Newark, NJ | Oct 2025 - Present

Rutgers - Center for Advanced Infrastructure and Transportation (CAIT)

- Proposed and implemented data integration initiatives across fragmented systems (Oracle ERP, Trapeze EAM, ECMS) to enable a single source of truth and develop an analytical layer (PowerBI) to visualize and report analytics
- Developed a probability-based warehouse optimization model and real-time Power BI dashboard to track inventory KPIs; reduced stock-out rate by **13%** and improved on-time delivery by **15%** while designing pick-put-away and kitting strategies.
- Implemented data-driven ABC-XYZ classification and XGBoost models to categorize SKUs by criticality, dimensions, and functionality; recovered **\$400K** in inventory value.
- Built Python forecasting models (V-ARIMA and Support Vector Regression) to forecast demand, price, and lead time for critical parts supporting procurement and maintenance planning for FIFA 2026; reduced excessive ordering by **12%** by mapping historical purchases and usage patterns.
- Proposed and implemented procurement KPIs, including cycle count accuracy, EOQ, and ROP levels, within Oracle ERP and Trapeze EAM; increased warehouse space availability by **27%** and reduced obsolescence by **13%**.
- Constructed a graph-network map of NJ Transit's end-to-end supply chain and cross-referenced findings against internal policy documents; uncovered **11** process gaps, identified **9** resolvable through Oracle ERP and Trapeze EAM integration, and presented recommendations to leadership, earning approval to lead improvements.
- Managed end-to-end procurement activities, including creating purchase orders, drafting vendor agreements, expediting critical orders, and negotiating prices to ensure cost-effective, on-time parts delivery.
- Sourced and engaged vendors for critical MRO spare parts required to support NJ Transit rail operations through FIFA World Cup 2026; collected lead-time and pricing data to ensure zero supply gaps.

Industrial Engineer - Supply Chain & Operations Analytics

Chennai, India | May 2022 - Dec 2024

Carborundum Universal Ltd (Murugappa Group)

- Worked with IT to engineer digital data flow, integrating shop-floor RFID scanning with Oracle ERP via REST APIs, which eliminated manual barcode scanning lag and increased cycle count accuracy by **15%**.
- Achieved a 25% cost reduction (\$150K vs. \$200K) in the purchase of an air classifier by identifying an alternate supplier through market research and initiated a long-term contract approved by management to cover equipment repairs, spare parts, and services.
- Implemented real-time stock allocation and tracking, by proposing and implementing RFID tags and bar-code scanners, which were connected to the ERP platform, thereby automatically recording and updating stock levels based on invoice/shipping notice and increase cycle count accuracy by 35%
- Quantified expected loss in revenue from stock-outs and built a Python/SQL model that dynamically mapped inbound/outbound shipments to stock levels in the warehouse which contributed to \$29M in annual revenue growth for a \$585M manufacturer by eliminating lost sales.
- Mined historical usage data in SQL and used Python to conduct root cause analysis on critical MRO spare parts procurement, which helped identify over-ordering patterns across the business unit and reduce average procurement cost by 10% per quarter.
- Built Power BI supplier scorecards to rank top suppliers by product group using demand, lead time and price variability,improving PO prioritization and supplier follow-up which helped increase OTIF from 90% to 95%.
- Led a warehouse modernization project and used spaghetti diagrams and motion study techniques to analyze warehouse movement patterns, reorganizing parts across bins, zones, and shelves to reduce travel distance by 10% per pick/put-away cycle.
- Increased Fused Alumina processing line throughput by 12% by using Value Stream Mapping to identify excess transfers/waiting points and capacity analysis to quantify conveyor delays, then implementing alternate routes to improve material flow.
- Increased ball mill process stability by 25% by applying CTQ monitoring and process parameter analysis across temperature, cycle time, noise, feed-discharge rate, output quantity, and grit size, then standardizing machine settings for speed, feed rate, air pressure, and energy consumption.
- Created detailed project plans and schedules in MS Project covering workforce, budget, and resources; reduced idle time during project execution and improved project-status visibility for more accurate decision-making.
- Developed and maintained SOPs for ad-hoc inventory reviews, inventory audits, slotting assessments, and pick/put-away workflow evaluations to standardize warehouse processes and improve inventory control.
- Won the Best Performance Award for three consecutive years (FY22, FY23, FY24) across different projects, along with the IT/Digital Excellence Award for digitizing procurement and inventory operations.

EDUCATION

Rutgers University - MS Industrial & Systems Engineering | GPA: 3.875 / 4.0

New Brunswick, NJ Jan

Courses: Data Analysis and Visualization, Stochastic and Deterministic Optimization

2025 - May 2026

SASTRA University - B.Tech Mechanical Engineering | GPA: 3.56 / 4.0

Tanjore, India

Courses: Operations Research, Advanced Manufacturing and Simulation (MATLAB)

2018 - 2022

SKILLS

Technical:	Python, SQL, R Studio, Power BI, MS Excel, MS Project, Oracle ERP, Trapeze EAM, SolidWorks
Procurement & Supply Chain:	Warehouse Planning & Optimization, Supplier Management, Demand Planning & Forecasting, Procurement Analytics, Logistics Planning, Process Analysis, Continuous Improvement, Spend Analysis
Operations:	Lean Six Sigma, 5S, TPM, ISO/OSHA Compliance, SOP Development