JOSEPH TAY

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PROFESSIONAL EXPERIENCE

Program Manager II | Amazon | Network Engineering & Scheduling Tech (NEST) **Jun 2021 – Present**

Volume Accumulation DeepAR Model Product Integration

- Planned and executed launch of a DeepAR operations research model, utilizing forward looking inputs on top of historical time-series data to improve accuracy of volume accumulation forecasting during periods of high volatility driving ~$20MM annual defect mitigation.
- Identified gaps in model configurations, and led the build of features across data science and tech dev teams to deploy alarms and guardrails, mitigating a potential ~$1MM worth of annual recurring defects.

Placement design Product logic enhancement

- Executed ramp plan for a logic enhancement pilot to improve accuracy of historical input data into our existing forecasting model by incorporating additional timestamp data, reducing North American network defect rate by ~105bps and associated costs by $11.4MM annually.
- Led cross-functional collaboration to identify potential shortfalls and mitigation plans in logic enhancement through deep diving root cause analyses and hypotheses testing, leading to eventual cost mitigation of ~$200k through fill rate tradeoffs.

Scheduling Solver Algorithm Product Integration

- Facilitated integration of scheduling algorithm by developing A/B test plan, launch ramp strategy and SQL-based defect root cause analysis tool, providing ~$1.2MM of scheduling optimization to the Middle Mile Network through improved equipment utilization.
- Collaborated with developer team to implement logic optimization changes within the solver, improving scheduling workflow and reducing manual configuration touchpoints by ~20 labor hours weekly.

Network Change Program Improvement

- Facilitated development of ETLM SQL query for metrics flash reports to capture opportunities for improvement, identifying new defect metrics for weekly business reviews that contribute ~$1MM defect costs to the Amazon Middle Mile Network.
- Developed input ingestion workflow for streamlining network change requests from stakeholders, reducing process-driven churn rate by 8%.
- Implemented automated SQL-based process guardrails to filter out defective/expired requests, reducing defective input costs by 12%.

Middle Mile Network Shutdown Program Development

- Developed new process incorporating automated ingestion workflow via ticketing system connections to large scale shutdown event configuration files to near real-time, reducing time taken to update shutdown event inputs from 24 hours to 1 hour.
- Reduced scheduling input process churn rate by ~86%, saving 20 hours of transportation associate labor hours per event and eliminating the possibility of manual error within the process.

Manufacturing Engineer II | Medtronic | Heart Valve Engineering **Jan 2018 – Jun 2021**

Medical Device Product Transfer (M&A)

- Executed Kaizen event including design of value stream maps in Visio and localization layouts on AutoCAD to streamline and stabilize production flow during line transfer, reducing movement waste by 40%.
- Led operations team through execution of process improvement program, resulting in reduction of quality excursions by 10% and improving output efficiency by 26%, resulting in $40k labor and materials savings per quarter.

Electronic Device History Record(e-DHR) Program

- Developed Gantt charts and work breakdown structures for cross-functional project teams using Microsoft Project, leading the implementation of an SAP-based automated data entry system E2E ahead of schedule by 2 weeks.
- Successfully reduced labor requirements of data entry team by 75% through efficient design of automated product and information flow on Visio, driving financial favorability of $90k/year.

Labor Cost Reduction Program

- Created project plans, timelines and work breakdown structures for assembly optimization projects driving cumulative ~$2MM annual savings.
- Collaborated with cross-functional medical device engineering teams for development, testing and qualification of new process steps and tooling/fixtures as poka-yokes to reduce manual-labor-generated defects by ~33.3%
- Coordinated vendor liaisons for sourcing of machined subassemblies for new tooling/fixtures, successfully negotiating a new supplier package with 15% reduced costs for duration of project and long-term supply plan.

Valve Assembly Yield Optimization Program

- Provided daily support to troubleshoot and resolve equipment and process issues on multiple value streams, reducing downtime and implementing one-piece flow processing in several production sequences.
- Authored and executed design characterization protocol and report for FDA submission, enabling production and clinical use of new product subassembly through increased raw material defect reduction, improving product yield by ~10%.

Process Quality Engineer | FreshRealm | Quality Engineering **May 2017 – Jan 2018**

- Facilitated launch of new retail program, designing optimized layout of production lines and inventory flow with Kanban systems and Cell Layouts, reducing costly regulated square footage by ~21%.
- Led post-launch scalability initiatives using Lean-Six-Sigma concepts to reduce process waste and improve takt times by 28%.
- Trained and supervised a team of Quality Technicians to perform standardized work involving quality management system adherence.

NASA HMI Research Assistant | Purdue University | Industrial Engineering **Jan 2016 – Dec 2016**

Section Commander (Sergeant) | Singapore Armed Forces | Combat Engineers **Jun 2010 – Jun 2012**

EDUCATION

B.Sc Industrial Engineering | 2016
Minors | Economics | Statistics

Purdue University
West Lafayette, IN

SKILLS

Microsoft Project, Asana, Project Management, SQL, R, Python, Power BI, Tableau, AWS Quicksight, Visio, MiniTab, AutoCAD, SAP, HTML/CSS, Javascript, Dashboard development, ETLM, Continuous Improvement, Medtronic-Certified Lean Six-Sigma Green belt