JOSEPH TAY

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PROFESSIONAL EXPERIENCE

Data Science 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.
- Collaborated with data science and engineering teams to identify model configuration gaps, overseeing feature development to deploy automated alarms and guardrails, mitigating ~$1MM in annual recurring defects.
- Leveraged performance tracking via SQL and R-scripting to iterate on product features with data-driven insight, refining the solution with A/B testing to enhance model accuracy, followed by a phased rollout plan to scale the enhancement smoothly with adoption across the network.

Placement Design Product Roadmap planning

- Designed and managed the product roadmap for a placement design initiative, integrating new timestamp data into the forecasting model to improve data accuracy, reduce defect rates by 105bps, and generate $11.4MM in annual cost savings.
- Prioritized features based on impact analysis and cross-functional input, leading hypothesis testing and root cause analysis that resulted in cost savings of $270k while ensuring alignment with business objectives and customer needs.
- Facilitated collaboration with engineering, data science, and operations teams to refine product specifications, implement a robust performance tracking system, and execute a phased rollout strategy to ensure successful adoption and optimization of enhancements.

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 Management Program Owner

- Owned a program involving identifying, scoping, and executing on several improvement initiatives that reduced defect occurrences in the Amazon Middle Mile Network by 15%.
- Led the development and deployment of process improvements across cross-functional teams, streamlining the network change management workflow and driving an 8% reduction in process-driven errors and $1M in annual cost savings.

Transportation Network Site Closure 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 ingest stakeholder input by ~96%.
- Reduced scheduling input process defect and error rate by half, driving >200 hours of labor cost savings per year.

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

Electronic Device History Record (e-DHR) Automation Product Development

- Led the end-to-end product development of an SAP-based data entry automation initiative, driving product roadmap creation, work breakdown structures, and cross-functional project planning using Microsoft Project, collaborating with BI, engineering and operations teams.
- Optimized information flow and reduced data-entry labor costs by 75% to deliver $90k annual cost savings upon successful product launch.

Medical Device Product Transfer (M&A) Optimization Project

- Re-designed value stream maps in Visio and localization layouts on AutoCAD to streamline and stabilize production flow during product transfer, reducing production inefficiencies and improving cycle times by ~40%.
- Led operations team through execution of process improvement Kaizen program, reducing manufacturing defect rate by 10% and improving output efficiency by 26%, resulting in collective ~$160k labor and materials cost savings annually.

Labor Cost Reduction Program

- Created project plans and work breakdown structures in collaboration with cross-functional medical device engineering teams for development, testing and qualification of new process steps and tooling/fixtures to reduce defects by ~33.3% and driving cumulative ~$2MM annual savings.
- 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 Project

- 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, using several Lean-Six-Sigma concepts to reduce process waste and improve takt times by 28%.
- Managed a team of Quality Technicians to perform standardized work tasks for production 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

BSc Industrial Engineering | Purdue University | West Lafayette, IN **2012 – 2016**

Minor in Economics | Minor in Statistics

SKILLS

Product & Program Management | Microsoft Project | Asana | SQL | R-scripting | Python | Power BI | Tableau | AWS Quicksight | Visio | MiniTab | AutoCAD | SAP | HTML/CSS | Javascript | Data visualization | Lean Six-Sigma Green belt