Josh Thompson

Contact

Address
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E-mail
Jthompson_01@outlook.com
LinkedIn
- LinkedIn Profile

Skills

GitHub Portfolio:
- Git Portfolio

Technical Skills:
- R
- Python
- SQL
- Machine Learning
- Discrete Event Simulation
- Azure cloud services

Certifications:
- Microsoft Certified: Azure Data Scientist Associate *(In progress)*

Data Science professional with 7 years of progressive experience and a strong engineering background. Proven ability to deliver insights that drive business outcomes. Skilled in **Python, R, SQL, and Azure,** with hands-on experience in **machine learning**, **statistical methods**, and **AI tools** as well as integrating and analyzing complex datasets to support product strategy, market research, and operations optimization.

Work History

Advanced Research Engineer- (Data Science Focus)
James Hardie Building Products, R&D | Fontana, CA
May 2022 – Present
- Leading analytics initiatives by integrating MLS housing, economics, and census data to automate market analysis. Pitched the idea of implementing an in-house data pipeline that reduces reliance on third-party reporting, cutting costs, staffing needs, and creates a more proactive insights delivery as opposed to reactive.
- Built a scalable API framework in **Python** around a tuned **Azure AI vision** model to classify home exteriors, enabling granular market sizing and insights at the zip code level for new products.
- Applied image preprocessing techniques in **R** to detect surface defects. Performed pixel-level analysis to quantify and classify defects, enabling insights into recurring manufacturing issues.
- Partnered with product, commercial insights, and research teams implementing data-informed decisions across initiatives.

Industrial Engineer
Polar Power | Gardena, CA
May 2021 – May 2022
- Applied operations research techniques through discrete-event simulation in **ProModel** to evaluate production scenarios, optimizing layout, material flow, and resource allocation to meet projected demand.
- Designed and implemented a modular assembly line based on simulation results, increasing throughput by 13% while improving scalability and reducing bottlenecks.
- Led the redesign of a generator cooling system by implementing a new fan, radiator, exhaust, and reengineered enclosure to improve airflow and ensure engine cooling under high-stress conditions—resulting in product certification and readiness for market launch.

Manufacturing Engineer
Global Environmental Products | San Bernardino, CA
August 2018 – April 2021
- Utilized discrete simulation models to Identified and recommended strategic improvements for line balancing and variation reduction, enhancing overall production efficiency and consistency.
- Developed live data collection method of integrating RFID sensors to automatically track and time stamp products in various stages of the manufacturing process.

Education

Master of Science, Business Analytics

California State Polytechnic University, Pomona | In Progress (Expected Completion 2026)

Bachelor of Science, Industrial & Manufacturing Engineering

California State Polytechnic University, Pomona

Graduate Coursework (Independent Study)
Stanford University School of Engineering

- CS229: Machine Learning

Projects

Customer Churn Prediction & Retention Optimization

- Conducted different **machine learning** models in **R**, concluding logistic regression was most effective in predicting customer churn (AUC: 0.866) using features like tenure, internet service, contract type, and billing methods.
- Performed customer segmentation (K-Means, PCA) to identify high-risk/high-value personas, informing targeted retention strategies.
- Designed and implemented a knapsack optimization framework to maximize net retention profit under budget constraints, improving ROI by ~54% over rule-based targeting.
- Visualized key insights (e.g., contract types, support usage, fiber optic churn risk) and delivered actionable recommendations to prioritize loyalty offers for high CLV customers.