

Josh Thompson

Contact

Address

Fontana, CA

Phone

(909) 436-0154

E-mail

Jthompson_01@outlook.com

LinkedIn

- [LinkedIn Profile](#)

Skills

Technical tools:

- R
- Python
- C++
- SQL
- Discrete Event Simulation (ProModel)

Certifications:

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

Data science professional with 7+ years of progressive experience transforming complex data into strategic insights. With a background in **engineering** and **advanced analytics**, I'm skilled in **machine learning**, **optimization**, and **statistical modeling** to deliver impactful solutions. Proficient in **Python**, **R**, **SQL**, and **Azure cloud services**, I'm passionate about building scalable systems that drive real business value.

Work History

Advanced Research Engineer/ Data Scientist

James Hardie Building Products, R&D | Fontana, CA

May 2022 – Present

- Led analytics initiatives by developing a prototype data pipeline that connected directly to third-party APIs for MLS housing, economic, and census data—automating market analysis while reducing reliance on vendor reports, cutting costs, and enabling more proactive decision-making.
- 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 using unsupervised clustering to quantify and classify defects, enabling insights into recurring manufacturing issues.
- Partnered with product, commercial insights, and research teams to implement 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.
- 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

- Used **R** to analyze cycle time data across multiple stages of the manufacturing process, identifying bottlenecks and line balancing issues, and recommending design changes to improve overall efficiency.
- Developed a real-time data collection system using RFID sensors to automatically track and timestamp products throughout different 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

- Built and evaluated 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, billing methods and more.
- Applied K-Means clustering to identify three distinct customer segments; uncovered a high-risk group with 85% churn likelihood, enabling precision targeting.
- Developed a knapsack optimization model to prioritize retention under a \$250K budget, increasing net profit by \$137K and improving ROI by 54% per dollar spent compared to a heuristic approach.
- Built a customer-level decision framework integrating churn probabilities, expected CLV, retention cost, and acceptance rates — reducing the target list from 2,620 to 593 high-risk, high-impact customers while preserving market coverage.