

# JUSTIN D. WASNER

[Email](#) | [LinkedIn](#) | [Project Portfolio](#) | [GitHub](#)

## PROFESSIONAL SUMMARY

**Data Scientist** with 3 years of experience building end-to-end data pipelines, performing exploratory and time-series analysis, and developing predictive and anomaly detection models for manufacturing operations. Skilled in **Python, SQL, Power BI, and Excel**, with 6 years of domain expertise in **Highly Automated Energy, Automotive, and Aerospace/Defense** industries. Proven ability to apply statistical methods, automate analysis workflows, and deliver actionable insights that improve operational performance and decision-making.

## CORE SKILLS

- **Tools & Languages:** Excel (PivotTables, lookups, advanced formulas), Python (pandas, NumPy, scikit-learn, matplotlib), SQL (joins, CTEs, window functions), Power BI (Power Query, DAX), Git/GitHub
- **Analytics:** EDA, statistical analysis (hypothesis testing), KPI definition, time-series analysis, correlation analysis, anomaly detection, data visualization, analytical storytelling
- **Data Prep & Quality:** data wrangling, data quality checks & validation, reproducible analysis
- **Machine Learning:** feature engineering, model training & evaluation (scikit-learn)
- **Data Engineering:** ETL pipelines, data modeling, query optimization, file formats (CSV/Parquet)
- **Web Apps:** Streamlit, Flask, APIs
- **Manufacturing Domain Expertise:** KPI development & review, root cause analysis (RCA), continuous improvement (CI), process mapping/flow understanding, PFMEA, Control Plans (CP), APIS-IQ

## PROJECTS

### Deep Dive WebApp | [Project Portfolio Link](#)

- **Description:** Developed a data-driven investigation platform that centralizes raw data, routing, and correlation analysis to accelerate root-cause discovery for PE/QE teams.
- **Tools & Skills:** Python (Pandas, Flask), SQL (MySQL), Data Visualization, Statistical Analysis, Time Series Analysis, Anomaly Detection, Regression Analysis
- **Impact:** Streamlined data access and correlation workflows, enabling faster identification of failure modes and more reproducible and robust investigations.

### Production Data ETL & Reporting Pipeline | [Project Portfolio Link](#)

- **Description:** Built a daily Python ETL pipeline that queried a web API for raw production data, performed complex conditional counting and summarization, and stored the data for downstream visualization in Power BI.
- **Tools & Skills:** Python (requests, Pandas), ETL automation, Data Aggregation, Data Storage and Recall, Power BI Dashboard Building
- **Impact:** Delivered a reliable, automated data source that enabled engineering, maintenance, quality, and manufacturing teams to access up-to-date production metrics each morning, improving decision speed and enabling data-driven process improvements across departments.

### Weather Weirdness Meter | [Project Portfolio Link](#)

- **Description:** Developed an interactive Streamlit app that compares current weather to historical hourly baselines and computes z-scores and percentiles to quantify how statistically unusual conditions are.
- **Tools & Skills:** Python (Streamlit, Pandas, APIs, Matplotlib), Statistical Analysis, Data Visualization
- **Impact:** Turned subjective weather impressions into reproducible anomaly scores and exportable datasets for further analysis

## EXPERIENCE

### Senior Process Engineer | [AESC US](#) | Smyrna, TN | Jul 2021 – Present

- Developed end-to-end data pipelines using **Python** (Pandas) and **SQL** to ingest, clean, validate, and transform large manufacturing and equipment datasets (>500k rows/day) into analysis-ready formats (Parquet, CSV), incorporating data quality checks and process context to enable reproducible workflows.
- Performed exploratory data analysis (**EDA**) on manufacturing and equipment datasets to identify trends, outliers, and performance drivers, supporting root cause investigations and data driven decisions.
- Designed and maintained analytical dashboards using **Power BI**, translating complex datasets into actionable KPIs and visual narratives for engineering and operations stakeholders; automated reporting reduced manual analysis time from hours to minutes.
- Applied statistical analysis and before/after comparisons to evaluate process and equipment changes, quantify impact, and measure reductions in variance and defect rates while accounting for normal process noise and system variability.
- Implemented time-series analysis and anomaly detection techniques to monitor equipment performance, improving early detection of abnormal behavior and contributing to reduced downtime.
- Optimized **SQL queries**, improving data retrieval efficiency and reducing dashboard refresh times by **50%+**, supporting scalable analytics use cases.
- Documented data sources, analytical methods, assumptions, process logic, and known failure modes in a centralized knowledge base, improving transparency, reproducibility, and institutional understanding of system behavior.
- Mentored engineers through internal training on **Python**, **SQL**, and **Power BI** to increase adoption of data-driven decision-making practices across all departments.

### Project Engineer | [Walker Die Casting](#) | Lewisburg, TN | Nov 2020 – Jul 2021

- Led cross-functional investigations to identify root causes of low-profitability products, using structured problem-solving and data-driven analysis to guide operational improvements.
- Improved project management workflows by defining critical metrics, standardizing documentation, and ensuring consistent tracking of process performance.

### Mechanical Engineer | [Lockheed Martin - MFC](#) | Camden, AR | Aug 2019 – Nov 2020

- Collaborated with quality engineering to analyze defects and process nonconformances under AS9100 standards, supporting data-backed corrective actions.
- Co-led a performance management team, using KPI reviews and operational metrics to drive efficiency and communication between engineering and production.

### Technical Intern | [Northrop Grumman - Aeronautics Systems](#) | Palmdale, CA | Jun 2018 - Aug 2018

- Supported tool engineering by tracking task progress, identifying delays, and improving workflow visibility through organized reporting.
- Assisted metrology and engineering teams by coordinating resources and documenting technical requirements for tooling and measurement systems.

## EDUCATION

### B.S. Mechanical Engineering | [Louisiana Tech University](#) | Ruston, LA | 2015-2019 | GPA 3.21

## AWARDS & CERTIFICATIONS

Engineer in Training (EIT), Private Pilot Certificate, Remote Pilot Certificate, Eagle Scout