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

- **Programming & Data Tools:** python (pandas, NumPy, scikit-learn), SQL (joins, CTEs, window functions), Power BI (Power Query, DAX), Excel, Git/GitHub, file formats (CSV, Parquet)
- **Statistical & Analytical Methods:** EDA, statistical inference, time-series analysis, correlation analysis, anomaly detection, feature engineering, regression modeling, before/after analysis
- **Machine Learning & Modeling:** supervised modeling (regression, classification), model training and evaluation, validation approaches, performance metrics, bias and variance considerations
- **Data Engineering & Pipelines:** ETL pipeline development, data modeling, query optimization, data quality checks, validation logic, reproducible analytical workflows
- **Visualization & Communication:** analytical storytelling, stakeholder-focused data visualization, dashboard design and insight communication for technical and non-technical audiences
- **Manufacturing Domain Expertise:** KPI development, root cause analysis (RCA), continuous improvement, process mapping, PFMEA, control plans, equipment and production system behavior

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 ID of failure modes. Reduced departmental analysis turnout time from days to minutes using large data sets (100k+ rows).

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. Summarized and concatenated over 50k rows of data per day.
- **Tools & Skills:** Python (requests, Pandas), ETL automation, Data Aggregation, Storage and Recall, Power BI
- **Impact:** Delivered an automated data source that enabled multiple teams to access up-to-date production metrics each morning, enabling data-driven process improvements across departments. Reduced daily metric report creation time from 1 hour to 5 minuets.

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.
- **Developed analytical frameworks** to triage "firefighting" investigations by impact and risk, using raw production and equipment data to identify major issues, define root causes, and prioritize corrective actions.
- **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.
- **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.
- **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