

Kurt Brischke

Systems Builder | Data Product Leader | Data-to-Decision Analytics

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EXECUTIVE SUMMARY

Systems builder with 15+ years designing data products from first principles across three industries – family manufacturing (started a 3,000-person bi-national ERP in Nicaragua), utility-scale renewables (built a cloud data platform consolidating 1.6M sensors across 4.5+ GW), and independent AI infrastructure (27 autonomous agents, custom MCP server, real-time dashboards). Currently Manager of Performance Analytics at Deriva Energy (Brookfield Renewable), where I've owned the product roadmap across 3 agile teams and led a 12–15 person cross-functional organization. Shipping a COO-sponsored diagnostic platform linking 100,000+ fault events to maintenance records at 85% join fidelity, and built the self-service analytics layer that operations teams, site engineers, and finance teams use to make real-world decisions. Translates engineering, finance, and regulatory inputs into shipped, defensible product roadmaps. Co-inventor on a descriptive analytics patent; EPRI Award recipient.

CORE COMPETENCIES

Data Products & Platforms: Databricks (Lakehouse Federation, Unity Catalog, Delta Lake, Genie Spaces, Medallion Architecture), AWS, PySpark, Python, SQL, Spark Structured Streaming, Streaming Pipelines (micro-batch), ETL/ELT Architecture, Self-Service Analytics Design, Data Product Ownership, Product Roadmap Strategy

Applied AI & Data Science: LLM Application Architecture, RAG Systems, AI Harness Design, Claude API / Claude Code, Prompt Engineering, Predictive Maintenance Modeling, Failure Forecasting, Confidence Scoring, Vector Embeddings, Semantic Search

Industrial & Energy Systems: SCADA/PI Systems, IBM Maximo, OT/IT System Federation, MTBF/MTTR Analysis, Fault Resolution Mapping, Vestas/GE/Siemens Turbine Platforms, On-Prem to Cloud Migration at Scale

Analytics & Visualization: Power BI (Super User), Seeq, Tableau, Databricks Genie Spaces, KPI Development, Dashboard Design, Operational Workbook Libraries

Leadership & Product Ownership: Product Ownership (3 agile teams), Cross-Functional Team Leadership (12–15 person org), Vendor Evaluation & Contract Negotiation, Data Governance, Executive Communication, Engineering-to-Finance Translation

PROFESSIONAL EXPERIENCE

Manager, Performance Analytics

Deriva Energy (Brookfield Renewable) – Charlotte, NC – 2021 – Present

Promoted to Manager; retained through Brookfield Renewable's acquisition of Duke Energy Renewables (2023). Leading 12–15 person cross-functional organization (2 direct, ~12–15 indirect across data science, engineering, and architecture).

COO-Sponsored Intelligent Fault Resolution Platform – "Chilton Manual for Wind Turbines" (2025–2026)

- Architecting a first-of-its-kind fault-resolution knowledge platform connecting SCADA event data to maintenance execution records (IBM Maximo) across a **3+ GW, 1,400+ turbine wind fleet**
- Engineered a transaction-first matching pipeline in Databricks (PySpark/SQL) with confidence scoring (GOLD/SILVER/BRONZE) and adaptive time-window calibration, linking **100,000+ fault events** to labor and material transactions at 85% join fidelity
- Delivered self-service analytics to performance engineers and site teams via a Databricks Genie Space backed by 5 gold-layer Unity Catalog tables, eliminating ad-hoc analyst requests for fault lookups, parts usage, and labor cost breakdowns; designated Delivery Lead for the 2026 AI project charter
- Designing the data foundation for an LLM-powered RAG system combining structured resolution profiles with 90+ OEM service manuals – the company's canonical diagnostic reference for field technicians
- **Projected steady-state impact:** \$3.6M–\$5.0M/yr (labor savings + uptime recovery + parts waste reduction + knowledge retention)

Production Data Pipeline & Predictive Maintenance (2022–2025)

- Architected production-grade PI/SCADA to Databricks streaming pipeline with 10-minute micro-batch processing and automated AF metadata sync across 4.5+ GW of renewable assets (1.6M individual sensors)
- Led a cross-functional "tiger team" with carte blanche after a catastrophic turbine failure – built 22 component-level failure forecasting models across the fleet
- Directed multi-year McKinsey collaboration with full leadership of a ~15-person cross-functional team, deploying ML models for turbine and inverter failure forecasting; presented monthly demos to the CEO; reduced unplanned downtime 18–25% at pilot sites
- Delivered **\$7.1M saved** through LTSA compliance and vendor LD recovery (2021–2026); established data quality standards trusted externally
- Reduced diagnostic time from 4–8 hours to 30–90 minutes via Seeq operational workbook library used daily by site teams and asset managers; negotiated multi-year platform contracts with Seeq and Onyx

Organizational Leadership

- Product Owner across 3 agile teams (data science, analytics engineering, operations); led ground-up AWS and Databricks rearchitecture of commercial operations infrastructure
- Aligned 4 siloed IT organizations into a unified analytics function during the Duke to Deriva transition
- Served as enterprise Data Steward; drove asset-mapping error reduction of 80%
- **Brookfield AI Champion** – leading 14+ AI use cases at Deriva within Brookfield's 15-portfolio-company, 7-country AI Value Creation Office; driving toward the \$10M 2026 AI value target

Lead, Performance Analytics

Duke Energy Renewables – Charlotte, NC – 2020 – 2021

- **Co-invented SMART** (Solar Monitoring and Reliability Tool) – autonomous detection of underperforming inverters, combiners, and trackers across 61 sites / 1,565 MW; solar UMC availability improved from high-80s to mid-90s%. **U.S. Patent App. No. US20210351612A1**
- **EPRI Award – Innovation in Renewable Analytics**, recognizing sustained contributions to predictive-maintenance and asset-performance methods across the renewable fleet
- Led analytics delivery across wind and solar portfolios; mentored analysts in Python, SQL, and Power BI
- Supported strategic investment and repowering decisions through asset performance modeling

Senior Performance Analyst

Duke Energy Renewables – Charlotte, NC – 2018 – 2020

- Led enterprise migration of 1.6M sensor points from on-premise Duke security infrastructure to cloud-native AWS/Databricks – ran the POC, validated the architecture, reduced 300-foot tower climbs by enabling remote predictive diagnostics
- Built foundational SCADA/PI data infrastructure and predictive models across wind and solar assets

Business Intelligence Analyst

Broad River Furniture (Ashley Furniture) – Charlotte, NC – 2017 – 2018

- Introduced Power BI enterprise-wide; built dashboards used by production, product strategy, and staffing teams to drive operational decisions

Director of Capacity Planning

American Apparel – Los Angeles, CA – 2015 – 2016

- Joined global retailer during pre-bankruptcy restructuring; designed planning system (Dynamics AX, Power BI, SharePoint) orchestrating 8 global facilities as one interconnected capacity system managing 800,000+ units/week
- Reduced workforce 30% through demand forecasting and production efficiency analysis

Business Analyst / Budget Analyst / Production Planning

Pinehurst Manufacturing Inc. – Charlotte, NC & Managua, Nicaragua – 2009 – 2015

6 years across US and Latin American manufacturing facilities (bilingual: English/Spanish).

- Led enterprise ERP design consolidating multinational facilities; improved on-time delivery 15% to 99%
- Designed \$90M interactive materials and labor budget; identified \$1.5M/yr in savings through cutting efficiency
- Built real-time production planning, inventory control (8,000+ SKUs / \$10M+), and incentive pay systems using SQL Server and Power BI

INDEPENDENT AI INFRASTRUCTURE

Ships production AI systems independently using Claude Code as a force multiplier. Built a 13-advisor personal operating system with 27 autonomous agents, a custom MCP server with semantic memory (Supabase/ PostgreSQL + pgvector + Voyage embeddings, 26 tools), and real-time dashboards pulling from multiple data sources. The same pipeline-to-decision pattern applied at personal scale – from data ingestion through front-end delivery.

EDUCATION

Master of Business Administration (MBA) – University of North Carolina at Charlotte, 2021

Microsoft Professional Degree in Data Science – 2016 (Statistics, Machine Learning, Azure, SQL, R)

B.S. Management & Accounting (Double Major, Full Scholarship) – University of South Carolina, 2011

AWARDS & RECOGNITION

- **Co-Inventor** – Descriptive Analytics Patent, SMART (Solar Monitoring and Reliability Tool), U.S. Patent App. No. US20210351612A1
- **EPRI Award** – Innovation in Renewable Analytics
- **\$20M+ attributed career value** – Total quantified realized impact across initiatives
- **\$7.1M total saved** – LTSA compliance + vendor LD recovery (2021–2026)
- **Brookfield AI VCO Champion (Deriva)** – leading 14+ AI use cases at Deriva within Brookfield's 15-portfolio-company, 7-country AI Value Creation Office

SELECT SPEAKING ENGAGEMENTS

- **Brookfield AI Summit** – AI Value Creation Across the Renewable Portfolio
- **EPRI Conference** – Predictive Analytics for Wind Fleet Reliability (Award Recipient)
- **OSISOFT Conference** – AI-Driven Asset Management at Utility Scale
- **Seeq Conference** – Operational Analytics for Renewable Asset Performance