Brian Lewis

Brooklyn, NY | brianburkelewis@email.com | [LinkedIn](#) | [GitHub](#)

SUMMARY

Data scientist with 11+ years of experience shaping data strategy, experimentation policy, and machine learning initiatives across organizations from early-stage startups to global tech leaders. Expert in causal inference and applied machine learning whose work has influenced thousands of product decisions for hundreds of millions of customers. Passionate about translating complex data into actionable insights and helping organizations make smarter, faster evidence-driven decisions in the face of uncertainty. Equally passionate about harnessing emerging technologies, including generative AI, to amplify impact.

CORE AREAS OF EXPERTISE

- Experimental design, A/B testing, and causal inference
- Bayesian statistics and probabilistic modeling
- Machine learning and predictive analytics
- Scalable data & ML pipelines and distributed computing
- Technical communication enabling evidence-based decisions at scale
- Product strategy, metrics, and KPI design
- Econometric and customer lifetime value analysis
- Data science leadership, mentorship, and culture building

PROFESSIONAL EXPERIENCE

Senior Data Scientist – Amazon Prime Video   *2021-present*

- **Led experimentation strategy for Prime Video**. Defined and maintained **12+ key metrics** guiding data-driven decisions across the entire customer experience, spanning UI/UX improvements, cross-site marketing, personalization ML model changes, and full app redesigns.
- **Championed statistical best practices** and fostered a strong culture of experimentation across **Amazon's second-largest experimenting organization** responsible for 3500+ annual customer-facing experiments.
- Drove adoption of **advanced testing methodologies**, including **multivariate testing** and **Bayesian impact estimation**, enhancing decision quality, goal tracking accuracy, and experimentation velocity.
- **Architected and validated long-term value econometric models** to serve as guardrail metrics for all experiment-based decisions, **impacting 200M+ monthly active customers worldwide** and multi-billion-dollar revenue outcomes.
- Established experimentation governance via **scientific policies, documentation, and internal communications**. Led quarterly training sessions for **150+ product, marketing, and engineering stakeholders** to enshrine and democratize rigorous causal measurement across Prime Video.

Senior Data Scientist – Mindstrong Health   *2020-2021*

- **Designed and deployed production ML models** integrated into clinician workflows, **automating behavioral insights** from patient data and enabling timely, personalized care delivery across distributed clinical teams.
- Applied **Bayesian techniques** (MCMC, Metropolis-Hastings) to infer clinically-meaningful quantities such as sleep and physical activity from passively-collected mobile sensor data.
- Mentored **10+ junior data scientists**, establishing best practices for code quality, effective collaboration, and MLOps across the data organization.

Data Scientist – Motive   *2019–2020*

- Designed, validated, and deployed ML models on **IoT sensor readings** from **200K+ commercial vehicles**, leveraging millisecond-level telemetry for predictive insights.
- Delivered analyses to the executive team on **AI-driven product opportunities**, influencing strategic investments on green-field product differentiators and initiatives.

Data Scientist – Bayes Impact   *2017–2019*

- **Built algorithms, APIs, and open-source tools** supporting government agencies and in-house research initiatives, focusing on **disparities in geographic access** to social services and medical care.
- Developed performant calculation pipelines to evaluate physician quality using the **nation's largest claims data warehouse**, introducing modern big data approaches to CMS.

Data Engineer – MedeAnalytics   *2014–2016*

- Developed backend infrastructure and ETL pipelines powering a **state Medicaid analytics platform** to track public health trends and costs, plus a **clinical portal** for care providers to access patient records.
- Revamped the Medicaid claims ETL pipelines, **reducing data latency by 65%** and accelerating availability for analytics and reporting.

EDUCATION

M.A. in Mathematics – University of Wisconsin, 2014
B.S. in Mathematics – Stanford University, 2012. Phi Beta Kappa

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SELECTED TOOLS & TECHNOLOGIES

Python (pandas, numpy, scikit-learn, statsmodels, scipy, XGBoost, LightGBM, seaborn, PyTorch, Tensorflow), SQL (Snowflake, Redshift, DynamoDB), Spark, SparkML, Airflow, AWS ecosystem, SageMaker, Docker, Kubernetes, Plotly, Tableau