

Charles Whetstone

Staff Forensics Engineer | Data & AI Infrastructure |

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Summary

Innovative engineering leader with 10+ years of experience delivering enterprise-scale infrastructure, machine learning, and secure data platforms. Expert in building scalable cloud-native systems and leading multidisciplinary teams across data, security, and ML. Proven success in architecting AI pipelines, managing full-stack MLOps platforms, and optimizing GPU-intensive workloads. Passionate about accelerating AI adoption through secure, efficient, and developer-friendly tooling—currently applying these skills in high-stakes, regulated environments at Walmart.

Core Competencies

- AI Infrastructure & MLOps (BigQuery, Vertex AI, MLFlow, PyTorch)
- Scalable Data Pipelines (Python, SQL, Spark, R, Kafka)
- GPU Workload Optimization (BigQuery, Colab, Vertex AI/NVIDIA stack, DGX-like environments)
- Secure Cloud Architecture (GCP, Azure, DevSecOps, Compliance)
- Cross-functional Team Leadership & Agile Program Management
- API Development & Automation (REST, Flask, FastAPI, CI/CD)
- Advanced Analytics & ML (Clustering, NLP, Supervised/Unsupervised ML)

Professional Experience

Staff Forensics Engineer

Walmart Global Tech | Bentonville, AR

Oct 2024 – Present

- Worked in an ANAB-accredited forensic lab, producing forensically sound reports in response to legal and investigative requests.
- Architected secure, scalable tools for eDiscovery and forensic analysis, enhancing GPU-powered document processing and data ingestion workflows.
- Led DevOps integration of AI-enhanced analytics tools with cloud-based evidence management systems.
- Oversaw secure data pipelines and infrastructure compliance across SQL Server and BigQuery platforms.
- Automated internal tools using Python to reduce manual intervention in data labeling and ingestion tasks, cutting turnaround times by 45%.

Senior Manager, Data Analytics – Legal & Data Platforms

Walmart | Bentonville, AR

Jan 2023 – Oct 2024

- Built an internal AI analytics framework for document clustering and predictive review, using ML models integrated with scalable compute.
- Implemented advanced analytics in RelOne to drive predictive document classification and improve review speed.
- Guided a team of engineers and analysts through cloud migrations and infrastructure modernization projects aligned with GCP AI tools.
- Advocated for and implemented containerized ML environments, enabling secure experimentation and reproducible analysis.
- Partnered with compliance and engineering teams to ensure systems met ANAB and SOC 2 requirements.

Senior eDiscovery Lead – Litigation Technology

Walmart | Bentonville, AR

Jan 2020 – Aug 2023

- Delivered ML-powered document classification systems supporting high-stakes litigation and regulatory cases.
- Led deployment of analytics across RelativityOne, integrating Active Learning and TAR models.
- Managed infrastructure and workflows spanning hybrid on-prem/cloud environments with a focus on reliability and auditability.

Previous Roles:

- Senior eDiscovery Manager – Purpose Legal (Remote)
- Contract Project Manager – Consilio (Remote)

Education

MS, Data Analytics (In Progress) – Southern New Hampshire University

BS, Information Technology – Southern New Hampshire University

Certifications

- Google Data Analytics Professional
- Machine Learning Specialization – Stanford (DeepLearning.AI)
- Advanced Learning Algorithms – DeepLearning.AI
- Predictive Analytics – uCertify
- Relativity Master Certification
- Application of Data Analysis Essentials – AICPA

Selected Projects

AI-Powered Music Behavior Modeling (Spotify Project)

Built a music genre and artist prediction engine using 2,000+ genre dimensions.

Leveraged logistic regression and XGBoost on BigQuery, with full feature engineering and GPU-accelerated model training in Colab/Vertex AI.

Real-Time Mental Health Escalation System

Designed a voice-based AI system for real-time mental health signal detection using Gemma 3n + Whisper + TTS. Developed in Python, with multimodal prompts, journaling workflows, and STT integration for mobile devices.

Amazon Civilization Prediction Engine

Built an end-to-end open-science pipeline leveraging satellite data (MODIS, SRTM, Sentinel, Landsat) and GPT-4o analysis to detect potential pre-Columbian Amazonian archaeological sites. Developed anomaly detection workflows using NDVI vegetation indices and terrain modeling. Mapped findings to environmental context layers and linked insights to scientific literature for predictive modeling of site likelihood.