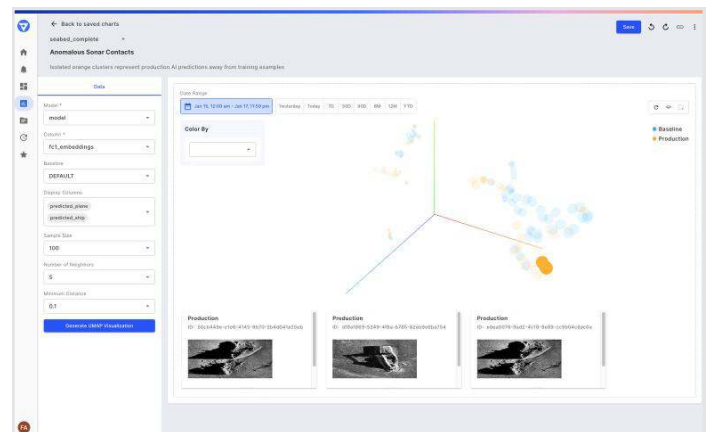fiddler

Fiddler AI Observability Capabilities for Computer Vision Models

Increased human oversight and decision-making using Vector Monitoring

Government agencies are increasingly adopting AI to support a variety of use cases ranging from low-risk back office applications to high-stakes decision making. Mission critical applications that use AI to make decisions about unstructured data, like text and image, require oversight to ensure that they continue to perform as designed, and be understood for decision making.

The Fiddler AI Observability platform helps establish standardized ML and LLMOps practices. The Fiddler AI Observability platform monitors ML, LLM, and generative AI models in pre-production and production, and helps AI teams ship more models and apps into production. Fiddler supports government and federal agencies' AI applications with a responsible diagnostic layer to support personas ranging from model developer, updating models and root causing problems, to a human operator whose AI assisted decision making can be enhanced by understanding model confidence and reasoning.

Fiddler enables model developers to measure subtle changes in streams of image data that their model is sensitive to. Additionally, it allows them to identify and isolate common failure cases with semantic clustering and model explainability. Fiddler provides model operators, "the human in the loop", with visual explanations of model decisions that fortifies trust in their tools and allows AI to enhance their expert decision making, rather than overriding it.

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Fiddler's Patented Algorithm for Monitoring Unstructured Data

Fiddler's patented clustering-based algorithm for Vector Monitoring goes beyond traditional methods to monitor unstructured data like like natural language processing (NLP), computer vision (CV), and multi-modal AI, by creating a nuanced empirical density estimate in the model's embedding space, capturing high-level semantic information that is often missed by other tools. Fiddler detects high density regions in the embedding space of the baseline data, and tracks how the relative density of such regions changes over time.

Government Use Cases

Image Explainability for Autonomous Vehicles

Fiddler explains predictions in ML models powering autonomous vehicles, such as aerial drones and unmanned underwater vehicles, to ensure they are high-performing and accurate during missions across ground, air, surface and subsurface environments.

- Identify anomalies to anticipate potential threats and navigation
- Track differences in operational domain of imagery or sensor data compared to training-time
- Enhance human effectiveness in high-stakes post-mission analysis decision-making

CV Monitoring for Intelligence and Surveillance

Fiddler monitors image models to track and get real-time alerts on anomalies and data drift.

- Monitor changes in traffic, signals, and communication patterns
- Incorporate human-in-the-loop process for assessment and decision making
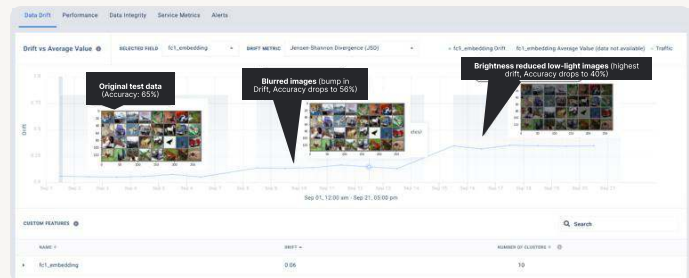
Model Monitoring Sensor Data

Fiddler monitors unstructured models to detect sensor data drift and identify outliers.

- Improve target precision with high performance model monitoring across different battlefield environments
- Receive real-time alerts on potential threats from image data inconsistencies
- Make better real-time decisions with deep understanding of the sensor data
- Rapidly identify degradation of sensors or changes in operational domain that could impact overall system performance
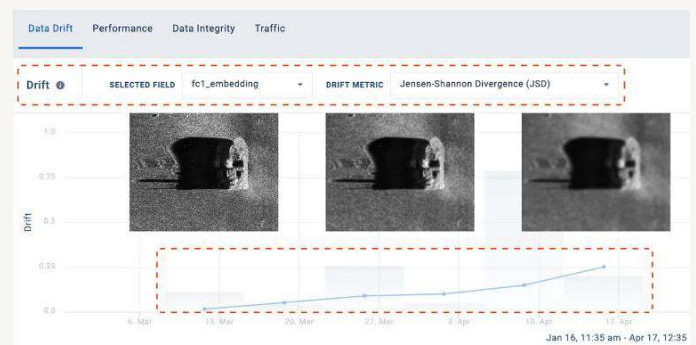
AI Observability Capabilities

👁 Real-Time Monitoring and Alerts

Fiddler's platform provides continuous monitoring of image models, sending immediate alerts when potential threats or subtle changes in image data are detected.
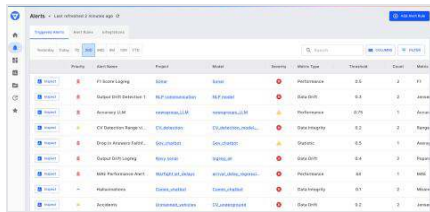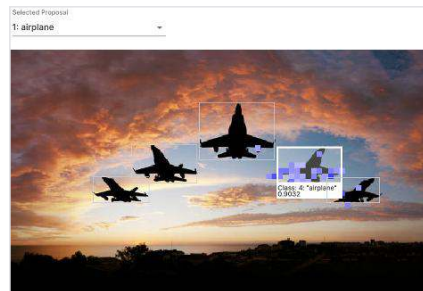

📑 Image Explainability for Decision Support

Fiddler provides human-readable explanations with detailed context for model predictions, enabling operators to make informed decisions in high-stakes scenarios.

⚙ Anomaly Detection and Prevention

Fiddler's 3D UMAP pinpoints anomalies and high-density clusters, crucial for root cause analysis and taking preemptive measures to mitigate risks and secure operations.
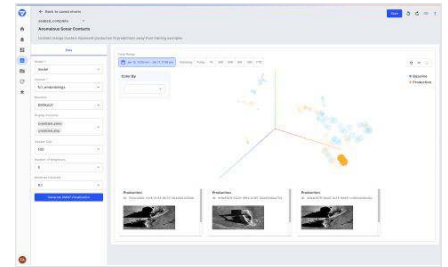

📈 Accurate Drift Monitoring in Text and Image Models

Fiddler's patented clustering-based algorithm help stakeholders to quickly detect subtle drifts and adjust to changes in image models , ensuring their critical operations remain accurate and reliable.

📊 Tailored Insights and Data Visualization

Fiddler's custom dashboards and reports enable stakeholders to efficiently analyze and visualize complex data, facilitating quick, informed decision-making and enhancing operational responsiveness.
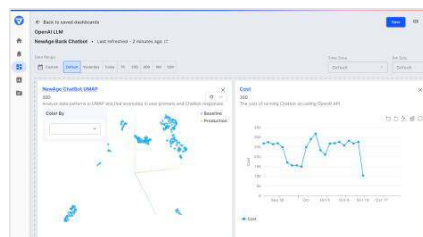
Fiddler is a pioneer in AI Observability for responsible AI. The unified environment provides a common language, centralized controls, and actionable insights to operationalize ML/AI with trust. Monitoring, explainable AI, analytics, and fairness capabilities address the unique challenges of building in-house stable and secure LLM and MLOps at scale.

Fiddler helps you grow into advanced capabilities over time and build a framework for responsible AI practices. Fortune 500 organizations use Fiddler across pre-production and production to deliver high performance AI, reduce costs, and be responsible in governance.

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