Anomascope

Overview: Anomascope is an anomaly detection and visualization platform for identifying unusual patterns or outliers in datasets across various industries.

Purpose: The goal of Anomascope is to enable businesses and researchers to quickly detect anomalies in their data, minimizing risks and optimizing decision-making.

Core Features:

- Automated anomaly detection using statistical and ML methods
- Support for multiple data formats
- Customizable anomaly thresholds
- Real-time monitoring dashboard
- Detailed anomaly reports

Tech Stack: Python, Pandas, NumPy, Matplotlib, Scikit-learn, Streamlit for dashboard

System Requirements:

- Operating System: Windows 10 or later / Linux / macOS
- Processor: Intel i5 or equivalent
- RAM: Minimum 8 GB
- Python 3.9 or later
- Internet connection for data streaming

Workflow:

1. Load dataset from supported sources
2. Preprocess and clean data
3. Apply anomaly detection algorithms
4. Visualize anomalies in interactive dashboard
5. Export detailed anomaly reports

Potential Use Cases:

- Fraud detection in financial transactions
- Network intrusion detection
- Monitoring industrial sensor data

Future Enhancements:

- Addition of deep learning-based anomaly detection
- Integration with IoT devices
- Automated alerting system