| Library | Pros | Cons |
|---|---|---|
| PyOD | - Wide range of anomaly detection algorithms. | - Requires understanding of various algorithms. |
| | - Good documentation and community support. | - Might require tuning for specific datasets. |
| ADTK | - Simple API for quick anomaly detection tasks. | - Limited range of algorithms compared to PyOD. |
| | - Designed for easy integration with time series data. | - Less flexible for complex anomaly patterns. |
| Prophet | - Automatic detection of seasonal patterns. | - Focuses more on forecasting than anomaly detection. |
| | - Robust to missing data and shifts in trend. | - Limited to time series data. |
| Luminol | - Open-source with scalable anomaly detection algorithms. | - Requires significant setup and configuration. |
| | - Integrates well with existing data pipelines. | - Steeper learning curve compared to simpler libraries. |
| Skyline | - Built-in anomaly detection with anomaly scoring. | - Limited customization compared to other libraries. |
| | - Designed for real-time anomaly detection. | - May require more resources for larger datasets. |
| Elastic | - Integrated with Elasticsearch for scalable data handling. | - Steeper learning curve if not familiar with Elastic. |
| | - Offers powerful querying and visualization capabilities. | - Requires infrastructure setup (Elasticsearch stack). |
| Kats | - Facebook's library with built-in anomaly detection models. | - Focuses primarily on time series forecasting. |
| | - Includes state-of-the-art models like F[illegible]NN. | - Limited anomaly detection algorithms compared to PyOD. |

- Elastic : good for anomaly detection, but suitable with opensearch setup. (paid)
- Kats - focused more on time series forecasting, though also provides some built in anomaly detection.
- prophet - primary focus on forecasting, though handles data well.
- Skyline - setup is difficult, plus for large scale systems, requires more resources.
- luminol - both historical and real time. good for anomaly (main focus)
- ADTK, PyOD : both good as offers multiple algos for anomaly detection.
- PyOD : Widest range of anomaly detection algorithms and strong community support.

- ADTK: Simple API designed for quick anomaly detection tasks, particularly suitable for time series data.
- PyOD, ADTK, Luminol : python based, so suitable with prometheus and grafana setup.

So overall, **PyOD, ADTK, Luminol** are best options with prometheus, grafana setup.

And **Elastic** with opensearch setup.