

1. INTENDED USE

Diagnostic device for laboratory environments.

Integration requires: Python, Data Engineering, SQL

Analytics: Machine Learning, Deep Learning, NLP

2. TECHNICAL REQUIREMENTS

Backend: Python with FastAPI or ASP.NET Core

ML Framework: PyTorch or TensorFlow

Data Engineering: Apache Kafka, ETL pipelines

Database: PostgreSQL, MongoDB or SQL Server

3. SOFTWARE INTEGRATION

REST API and GraphQL endpoints

Containerised deployment with Docker

Monitoring with Azure or AWS CloudWatch

4. TESTING & VALIDATION

Unit testing and integration testing required

TDD approach with pytest

CI/CD via GitHub Actions