

GCP Medical Imaging Suite

Enhanced insights with AI

Problem Statement	The vast majority of DICOM image interpretation conducted in a clinical setting are done solely by human interpretation. Misdiagnosis is an unfortunate but true reality that some people face. Whether it be a failure to diagnose a patient's condition, an avoidable delay in correctly diagnosing a patient, or providing a wrong diagnosis for a patient's condition. Each of these issues is a direct cause of poor human interpretation.
Proposed Solution / Value Proposition	Leverage the Google Cloud Platform Medical Imaging Suite to enhance the time to serving results and help doctors better interpret the results of scan. Vertex AI in tandem with subject matter experts will allow us to build and training visual AI models that support doctors in their decision making process.
Results	<ul style="list-style-type: none">• Reduced number of misdiagnosis• A tool to support doctors to help interpret CT scans



Common **pain points** in delivering AI in Medical Imaging



Interoperability of imaging data

Imaging data can be large, inconsistent, and often resides in silos on premises and in disparate healthcare data systems.



Imaging analysis and annotation

Preparing images and datasets for AI model training is typically highly manual, time-consuming, and costly.



Scalable AI/ML models

Developing accurate, reusable ML models can be difficult due to limited access to quality training data and lack of quality model development tools.

Google Cloud's **Medical Imaging Suite** helps organizations realize the potential of AI by making imaging data accessible, interoperable and useful



Accelerates imaging diagnostics with interoperability

Use the same tools that power Google to reduce time & resources to deliver scalable AI/ML.



AI enables faster diagnosis and helps increase productivity

Better imaging interoperability can help speed up diagnoses, alleviate physician burnout, and increase efficiency of care delivery.



Helps improve access to better patient care & outcomes

Transform disease detection and diagnosis by prioritizing critical cases, augmenting treatment decisions, or expanding screenings in areas where there are shortages of doctors.

Google Cloud's **Medical Imaging Suite***

Medical Imaging Suite Components	Offering	Google Cloud Tech
Imaging Storage	Secure, scalable, standardized and managed cloud storage environment with integrated de-ID	Cloud Healthcare API , DICOM Store , including integrated de-ID functionality
Imaging Lab	AI-assisted labeling and annotation tools to automate highly repetitive tasks	Native integration with any DICOMweb viewer, enabling AI-assisted labeling & annotation tools
Imaging Datasets and Dashboards	Easily view and search petabytes of data for advanced analytics and cohort building	BigQuery and Looker , built to connect, analyze and visualize data at scale with zero operational overhead
Imaging AI Pipelines	Easily transform images & annotations into Vertex AI datasets for a faster model training process	Extract and transform DICOM images and annotations into Vertex AI datasets using Cloud Healthcare API
Imaging Deployment	Flexible options for cloud, on-prem or edge deployment and real-time insights	Google Distributed Cloud , enabled by Anthos , extends Google Cloud 's infrastructure and services to the edge

Proprietary + Confidential

Developing Prediction Models - Object Detection

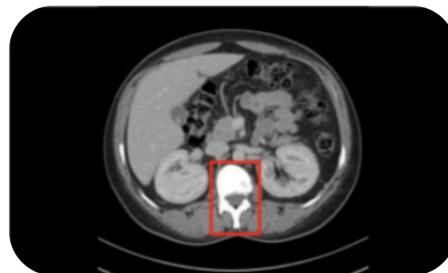
Improve imaging workflows with AI-powered object detection



Create object detection datasets with **Google Cloud Storage** and labeling within **Vertex AI**



Train new models with **AutoML Vision Object Detection** and deploy predictions with **API endpoints**



Demo available upon request