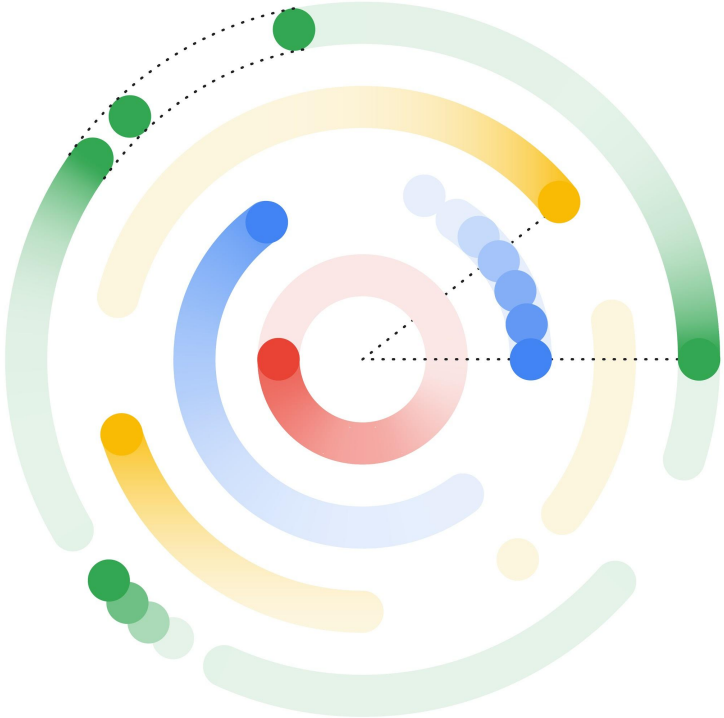
Google Cloud PORTAL TELEMEDICINE

Disrupting Traditional Industries With AI (for the Better)

Google Cloud Applied ML Summit

Solving for the future.

06/10/21



Nicholas Drabowski
Head of AI,
Portal Telemedicina

Amanda Furtado
Machine Learning Engineer,
Portal Telemedicina

Customer Voices

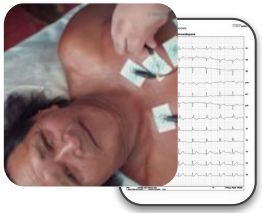
Building a telediagnostic service with Google Cloud

PORTAL TELEMEDICINA

Overview

Exam is performed

Patient with complaint of chest pain undergoes ECG examination



Exam uploaded automatically to Cloud

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Central de Saúde Digital

+

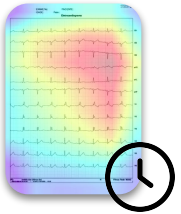
IoT Solution

Prioritization with AI

AI checks dozens of pathologies in only 1.3 min

Time-sensitive findings assign the highest priority

Aila
ARTIFICIAL INTELLIGENCE
LIFE ANALYTICS



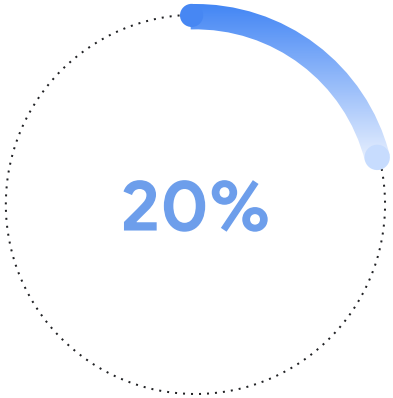
Specialist report

Report is made and the doctor recommends immediate actions.

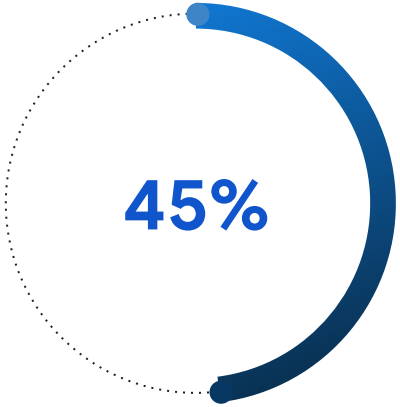
Results back to clinic

Local professionals take action immediately to save the patient's life.

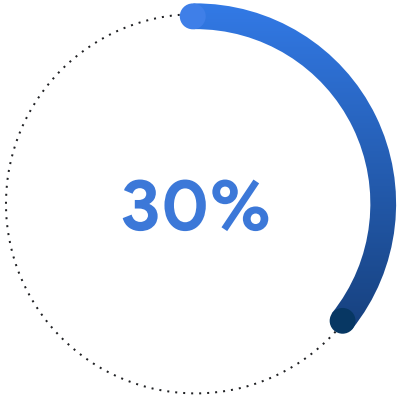
Impact



Faster response
for abnormal cases



Reduction of deaths
from CVD
(Against 18% increase in other cities)



Cost reduction
for patients with cardiovascular diseases (CVD)

- CVDs account for 20% of all deaths in that city. This means almost 10% of mortality reduction in the entire city, with **direct impact on the city's HDI** and population longevity
- CVDs are the biggest cause of deaths both in Brazil and USA
- The patients payed R$ 0,00 for the service, because Brazil has a public healthcare system (SUS)

Five step validation process

Labels validation

L0

Metrics validation

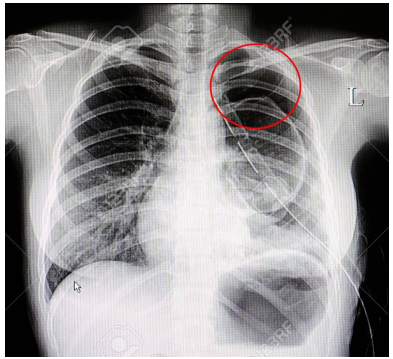
L1

TensorBoard

Data Studio

Heatmap validation

L2



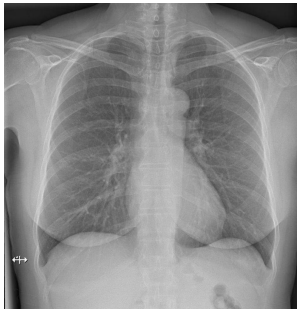
Pneumothorax

Epidemiological validation

L3

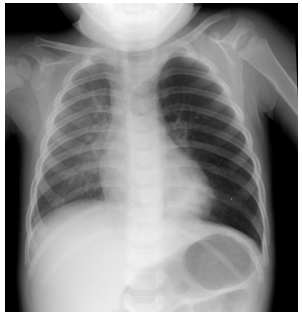
TensorBoard

Data Studio



45 years

70 years



1 years

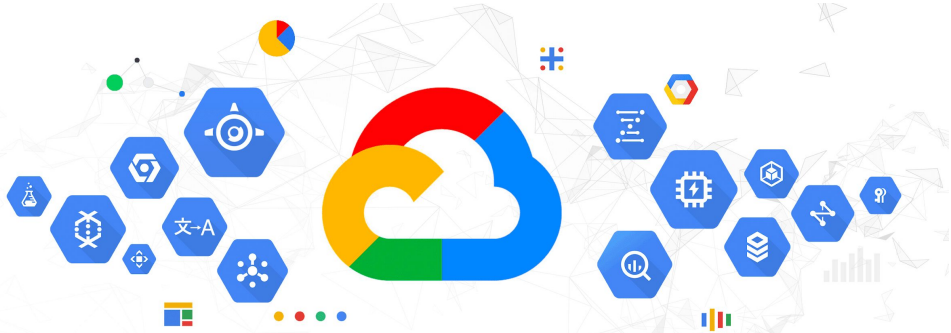
15 years

Monitoring validation

L4

Data Studio

GCP tools we love



Cloud Dataflow

Cloud Run

Accelerated the data processing from

3 DAYS to 1 HOUR

Reduced the costs in

97%

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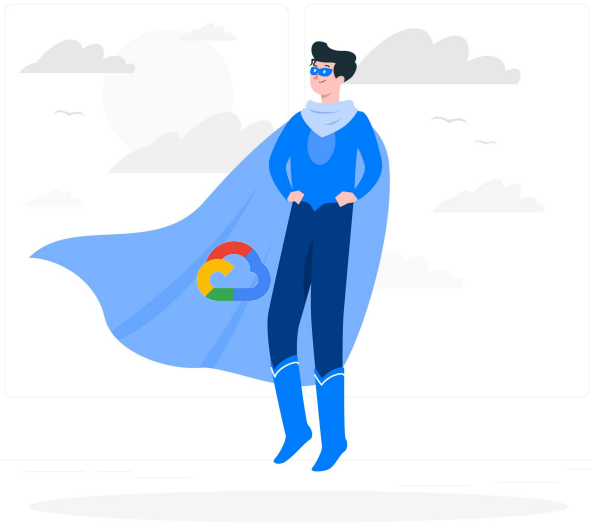
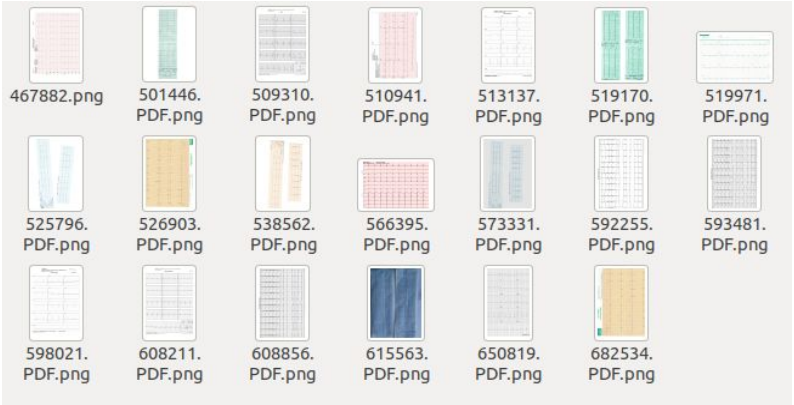
Responsible AI

AI is a very powerful tool.

But it's still just that: a tool.

Committed people designing goal-oriented processes is what make the real difference.





Fairness is a broader concept!

People who have totally different points of view,

but aligned in the same purpose.

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ML Practitioner Summit

Thank you for joining!