

# Proyecto CGR-GIZ-CENFOTEC

IA – Modelo y Estimación de implementación

Msc. Rodrigo Herrera

## Objetivo

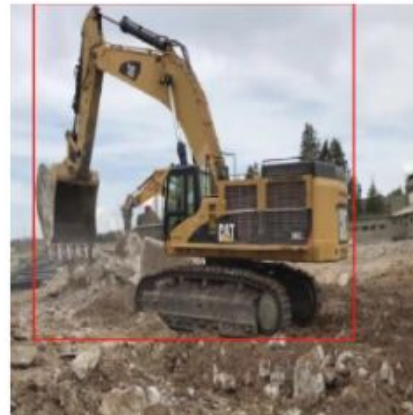
- Avances del Modelo
- Demo
- Revisión de arquitectura de implementación
- Revisión de costos de arquitectura

# CGR-GIZ-CENFOTEC

Imágenes



Vagonetas



Excavadoras



# CGR-GIZ-CENFOTEC

## Imágenes



## Cargadores



## Personas

# CGR-GIZ-CENFOTEC

## Imágenes



## Mezcladoras

Cantidad por clase son:

- Dump\_truck: 7855
- Excavator: 7323
- Loader: 4870
- Mixer\_truck: 1992
- Person: 2192

# CGR-GIZ-CENFOTEC

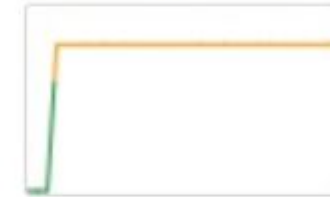
## Modelos y proceso de entrenamiento

```
Epoch #0 loss: 0.08119627088308334  
Epoch #1 loss: 0.049133557826280594  
Epoch #2 loss: 0.053207721561193466  
Epoch #3 loss: 0.06533277779817581  
Epoch #4 loss: 0.02320614829659462  
Epoch #5 loss: 0.041896190494298935  
Epoch #6 loss: 0.027884017676115036  
Epoch #7 loss: 0.033624108880758286  
Epoch #8 loss: 0.009445509873330593  
Epoch #9 lossS: 0.043928906321525574
```

System RAM  
17.4 / 83.5 GB



GPU RAM  
31.8 / 40.0 GB



Disk  
32.5 / 201.2 GB



Demo

<https://colab.research.google.com/drive/1PjbNF5KaKsJHKqpBVtwylxMjkuDdpaJe?authuser=1#scrollTo=SFEK8fuxPyo7>



# CGR-GIZ-CENFOTEC

Resultado del modelo con las imágenes tomadas





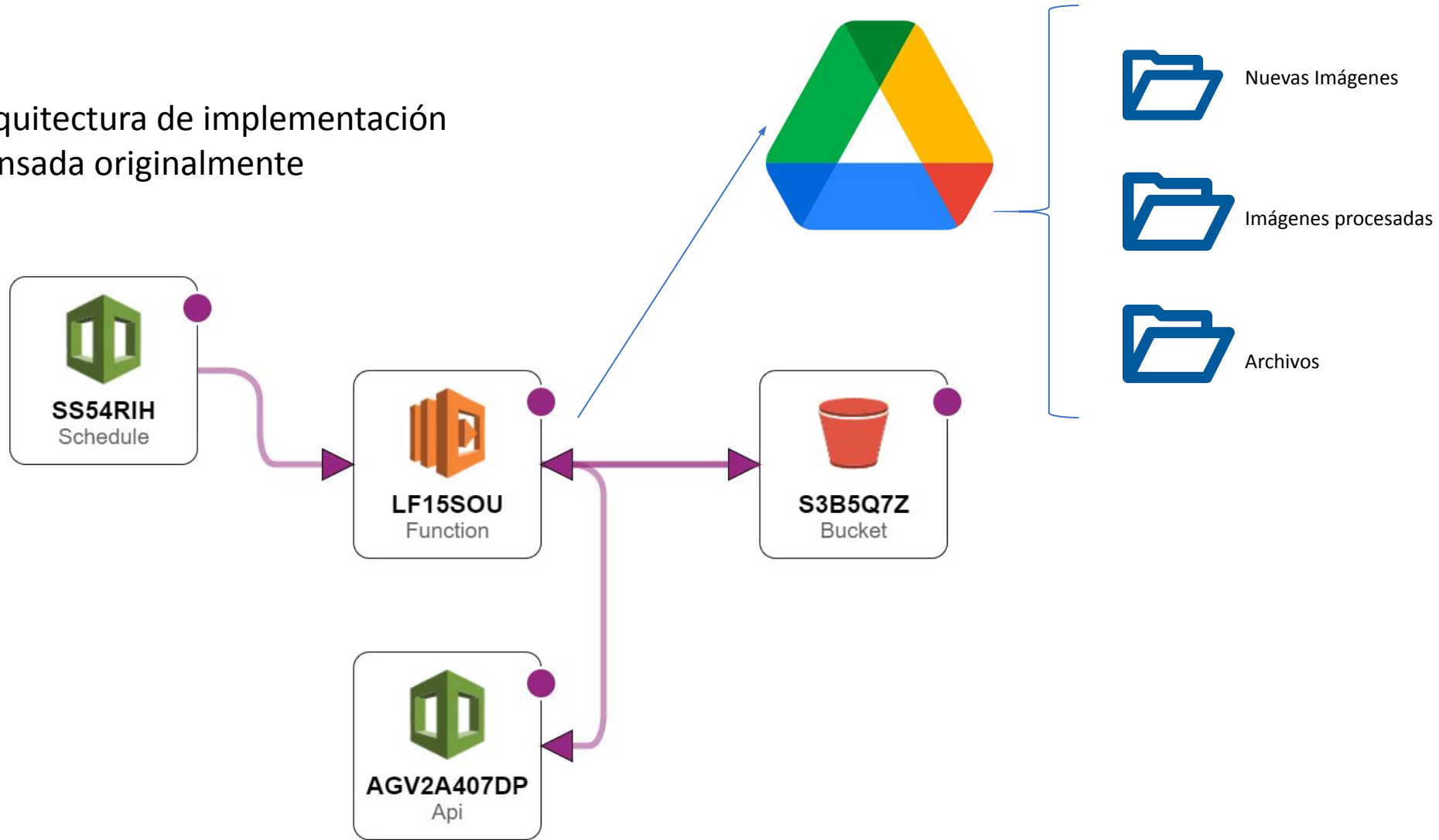
# CGR-GIZ-CENFOTEC

Resultado del modelo con las imágenes tomadas



# CGR-GIZ-CENFOTEC

Arquitectura de implementación  
pensada originalmente



# CGR-GIZ-CENFOTEC

## Estimación de Costos

### Estimate summary

Upfront cost

0.03 USD

Monthly cost

124.99 USD

Total 12 months cost

1,499.91 USD

Includes upfront cost

### Detailed Estimate

Name	Group	Region	Upfront cost	Monthly cost
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AWS Lambda	No group applied	US East (Ohio)	0.00 USD	0.01 USD
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Status: -

Description:

**Config summary:** Architecture (x86), Architecture (x86), Invoke Mode (Buffered), Amount of ephemeral storage allocated (2 GB), Number of requests (1000 per day)

Amazon Simple Storage Service (S3)	No group applied	US East (Ohio)	0.03 USD	3.31 USD
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Status: -

Description:

**Config summary:** S3 Standard storage (100 GB per month), S3 Standard Average Object Size (16 MB), PUT, COPY, POST, LIST requests to S3 Standard (1000), GET, SELECT, and all other requests from S3 Standard (1000), Data returned by S3 Select (2 GB per month), Data scanned by S3 Select (2 GB per month) DT Inbound: Internet (50 GB per month), DT Outbound: All other regions (50 GB per month)

Name	Group	Region	Upfront cost	Monthly cost
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Amazon API Gateway	No group applied	US East (Ohio)	0.00 USD	121.67 USD
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Status: -

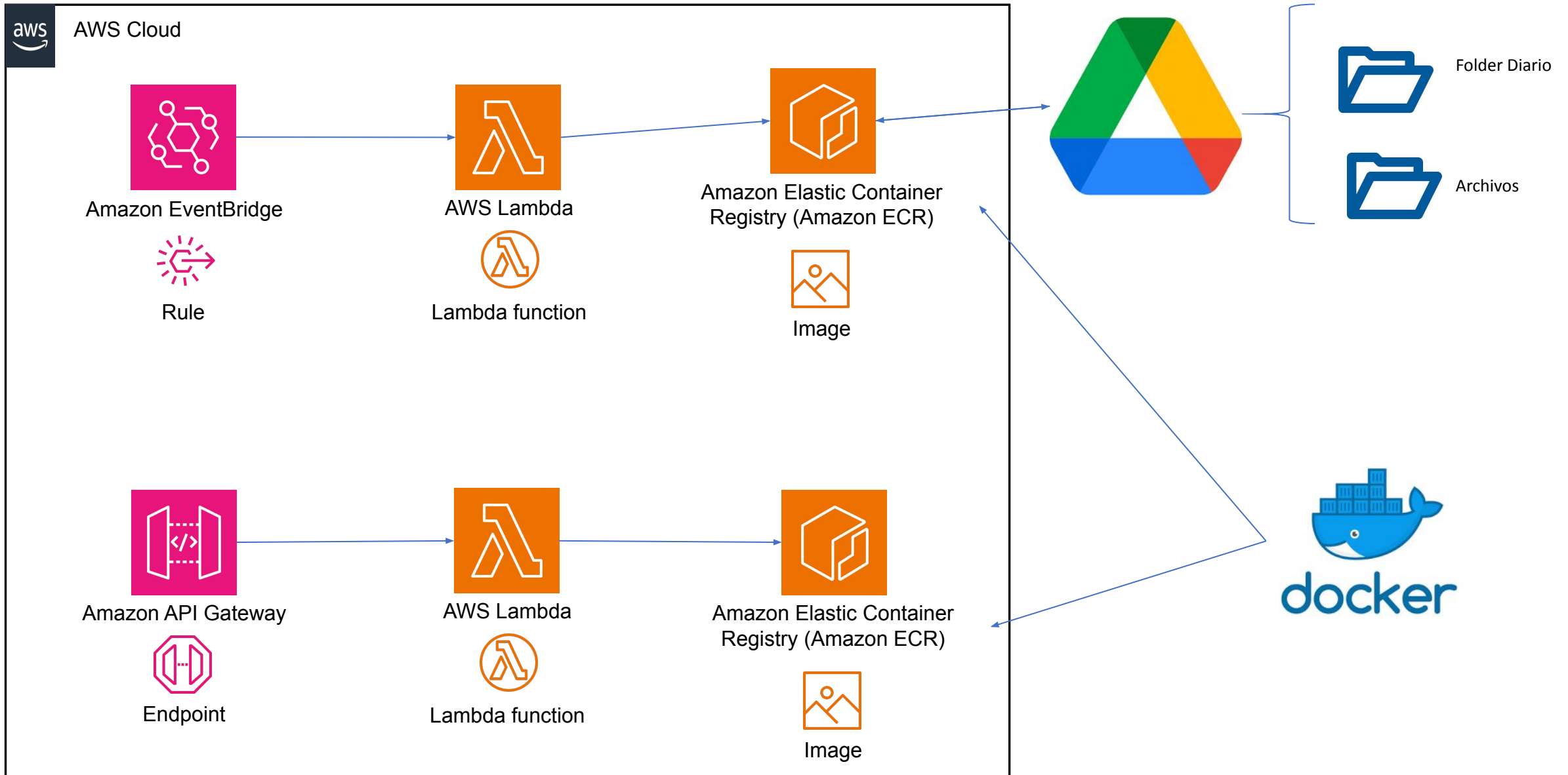
Description:

**Config summary:** REST API request units (thousands), Cache memory size (GB) (None), WebSocket message units (thousands), HTTP API requests units (thousands), Average size of each request (2 MB), Average message size (32 KB), Requests (1000 per day), Requests (0 per day)

### Quotas

Queries	Per 60 seconds	12,000
	Per 60 seconds per user	12,000

# CGR-GIZ-CENFOTEC - Propuesta nueva arquitectura





# CGR-GIZ-CENFOTEC - Costos Nueva arquitectura

## Estimación de Costos

### Estimate summary [Info](#)

Upfront cost  
0.00 USD

Monthly cost  
34.16 USD

Total 12 months cost  
**409.92 USD**  
Includes upfront cost

### Detailed Estimate

Name	Group	Region	Upfront cost	Monthly cost
Amazon EventBridge	No group applied	US East (N. Virginia)	0.00 USD	0.00 USD
<b>Status:</b> - <b>Description:</b> <b>Config summary:</b> Size of the payload (50 KB), Number of custom events (32 per month), Number of invocations (32 per month)				
AWS Lambda	No group applied	US East (N. Virginia)	0.00 USD	0.01 USD
<b>Status:</b> - <b>Description:</b> <b>Config summary:</b> Architecture (x86), Architecture (x86), Invoke Mode (Buffered), Amount of ephemeral storage allocated (10 GB), Number of requests (32 per month)				
AWS Lambda	No group applied	US East (N. Virginia)	0.00 USD	0.01 USD
<b>Status:</b> - <b>Description:</b> <b>Config summary:</b> Architecture (x86), Architecture (x86), Invoke Mode (Buffered), Amount of ephemeral storage allocated (10 GB), Number of requests (32 per month)				

**Amazon Elastic Container Registry**      No group applied      US East (N. Virginia)      0.00 USD      2.90 USD

**Status:** -  
**Description:**  
**Config summary:** DT Inbound: Internet (32 GB per month), DT Outbound: Internet (10 GB per month), Amount of data stored (20 GB per month), Data transfer cost (0.9)

**Amazon API Gateway**      No group applied      US East (N. Virginia)      0.00 USD      31.24 USD

**Status:** -  
**Description:**  
**Config summary:** REST API request units (millions), Cache memory size (GB) (1.6), WebSocket message units (thousands), HTTP API requests units (millions), Average size of each request (1 MB), Average message size (32 KB), Requests ( per month), Requests (1 per month)

### Acknowledgement

AWS Pricing Calculator provides only an estimate of your AWS fees and doesn't include any taxes that might apply. Your actual fees depend on a variety of factors, including your actual usage of AWS services. [Learn more](#)

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