UNIVERSITÀ DI PISA

Serverless & Computer Vision

ALPHA COGS

The Fundamentals

We Work Together With You As One Team

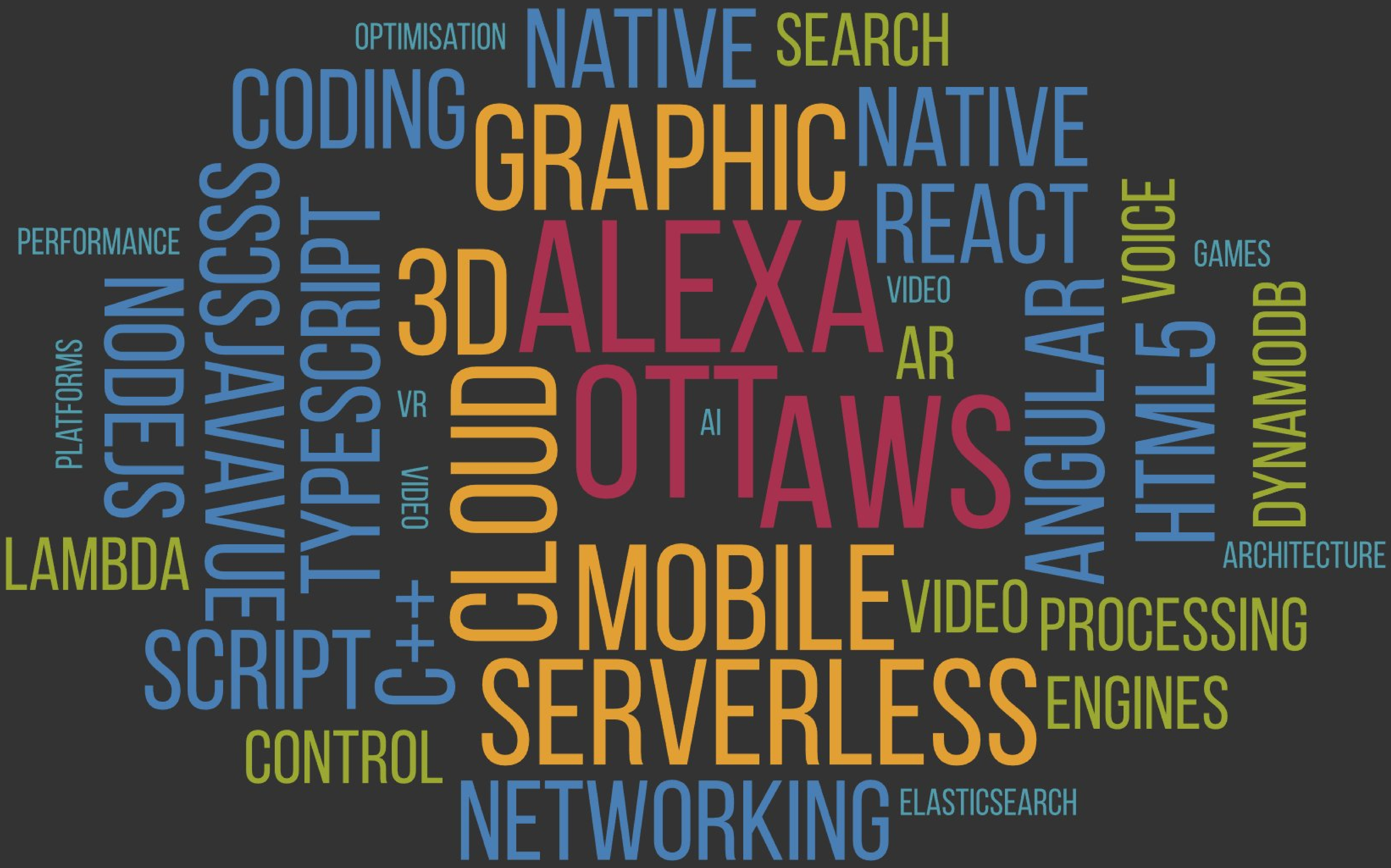
We Are Fair To Developers

FAIRTRADE

We Design For You

We Plan & Organise A Project With You In Mind

Team's Skills & Technologies



MADE WITH
beautiful.ai

A Few Of Our Clients & Partners

Walt Disney

MARCOPOLO
Learning

telestream

National Research
Council of Italy

bloomreach

HIPPO

ROYAL
OPERA
HOUSE

Logifect

MASSIVE ROCKET

wandoora®

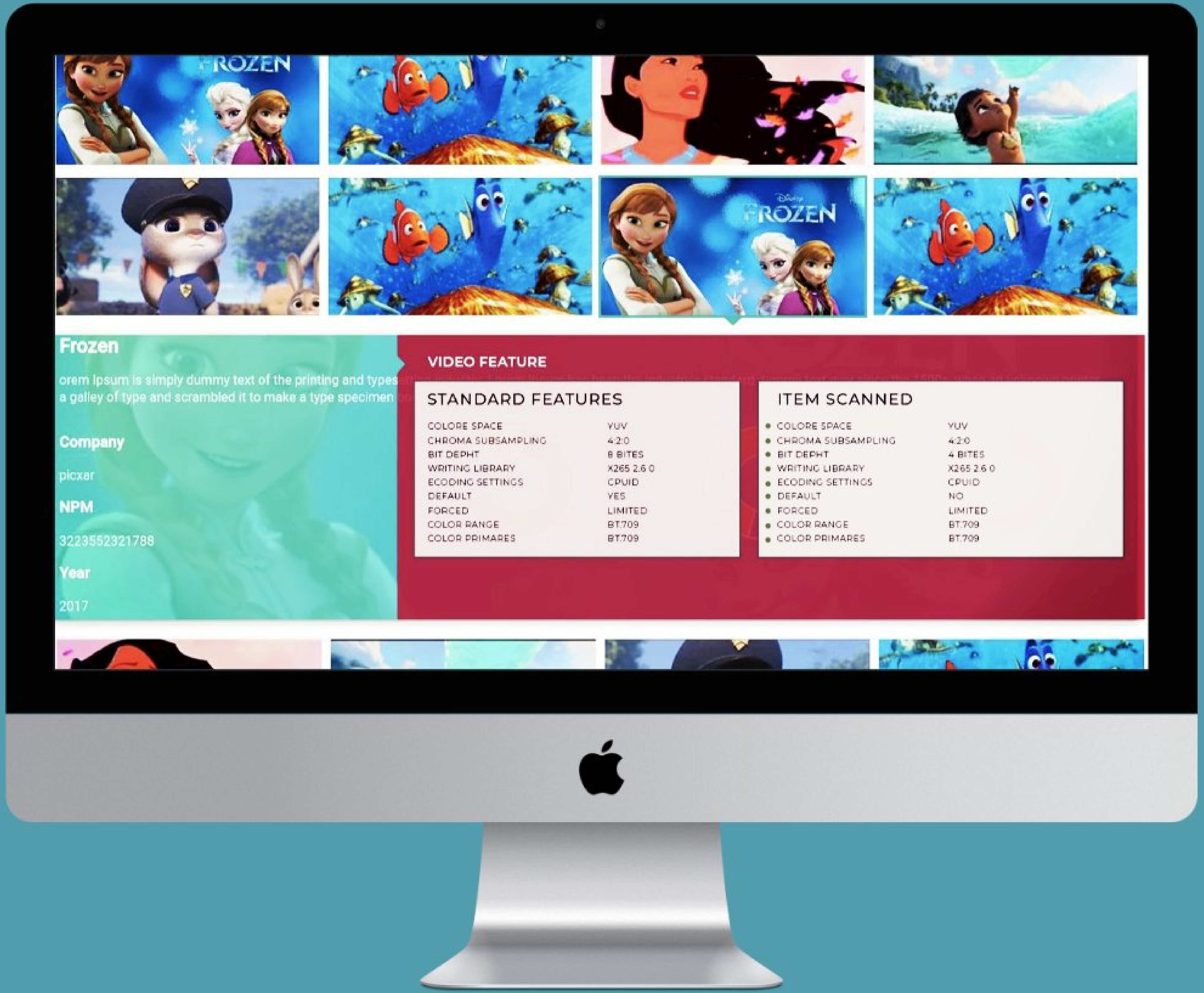
UEFA

OAG®

overcast™

Case Study

Disney Thanos



Frozen

orem Ipsum is simply dummy text of the printing and types
a galley of type and scrambled it to make a type specimen

Company

picxar

NPM

3223552321788

Year

2017

VIDEO FEATURE

STANDARD FEATURES

COLORE SPACE	YUV
CHROMA SUBSAMPLING	4:2:0
BIT DEPHT	8 BITES
WRITING LIBRARY	X265 2.6 0
ECODING SETTINGS	CPUID
DEFAULT	YES
FORCED	LIMITED
COLOR RANGE	BT.709
COLOR PRIMARES	BT.709

ITEM SCANNED

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Product: Partners' Software to analyse & process video meta data through extracted media info

Purpose: Automated system to ensure secure & correct file upload and meta data extraction

Technology: Angular/Material Design/AWS Micro services/Lambda/Elastic Search/DynomoDB/Serverless framework / Computer Vision video analysis

Investment: Similar media projects estimates start from £130,000 & will require on average 6.5 months development work

✓ What is Serverless

Serverless computing is a method of providing backend services on an as-used basis. The term ‘serverless’ is somewhat misleading, as there are still servers providing these backend services, but all of the server space and infrastructure concerns are handled by the vendor. Serverless means that the developers can do their work without having to worry about servers at all.

✓ Development Advantages.

Serverless computing is generally very cost-effective, as traditional cloud providers of backend services (server allocation) often result in the user paying for unused space or idle CPU time.

✓ Infrastructure Advantages.

Developers using serverless architecture don’t have to worry about policies to scale up their code. The serverless vendor handles all of the scaling on demand.

✓ Simplified backend code

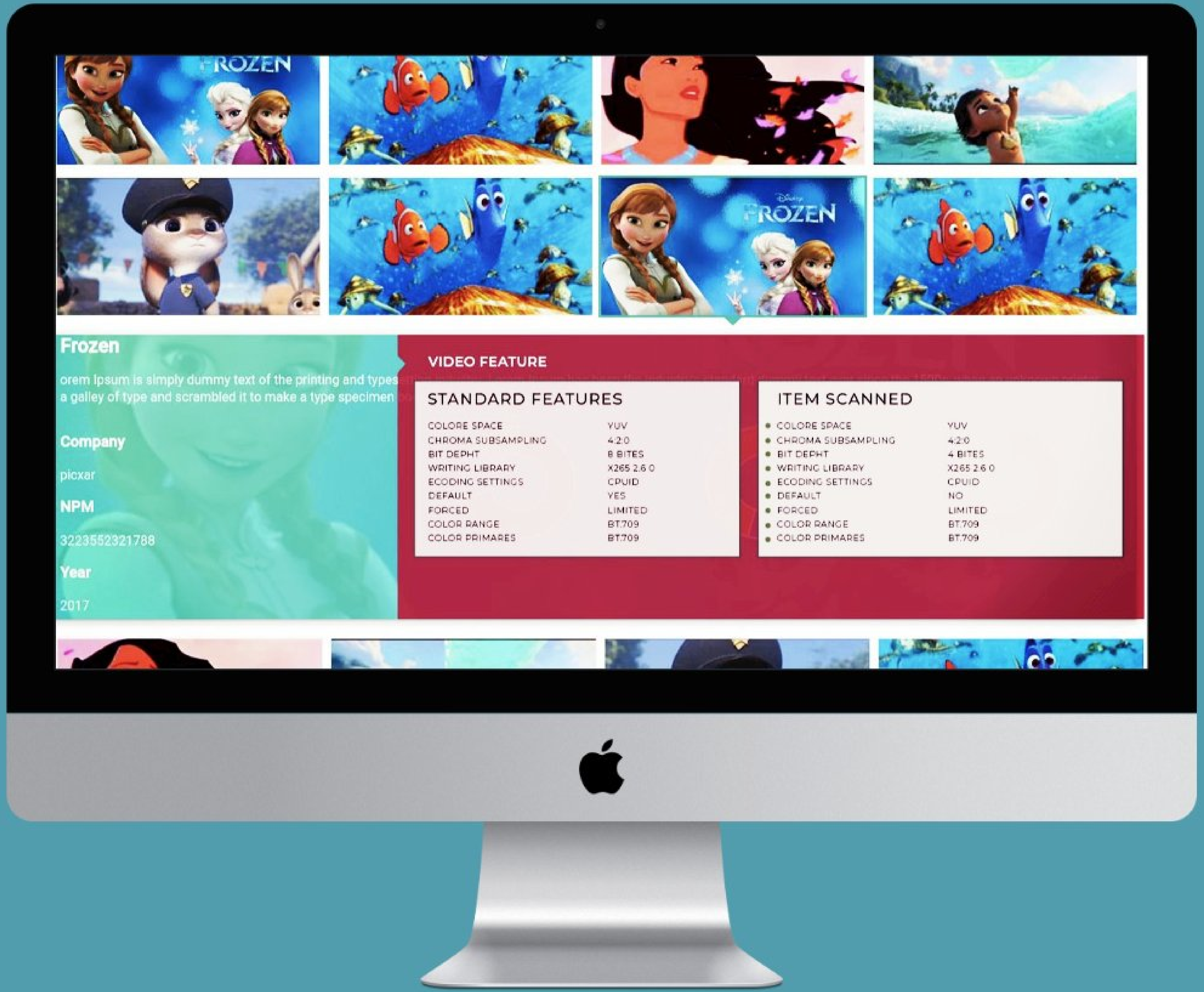
With FaaS, developers can create simple functions that independently perform a single purpose, like making an API call.

✓ Quicker turnaround

Serverless architecture can significantly cut time to market. Instead of needing a complicated deploy process to roll out bug fixes and new features, developers can add and modify code on a piecemeal basis.

Case Study

Disney Thanos



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CODE

XPLORER
PEN EDITORS
serverless.yml
WS-SOLUTION-ARCHITECT-ASSIGNMENT-SERVERLESS-C...
.dynamodb
local-data
src
.gitignore
.nvmrc
config.dev.yml
package-lock.json
package.json
serverless.yml
OCKER: CONTAINERS
UTLINE
MELINE
OCKER: IMAGES
PM SCRIPTS
OCKER CONTAINERS
OCKER IMAGES
ZURE CONTAINER REGISTRY
serverless.yml
serverless.yml

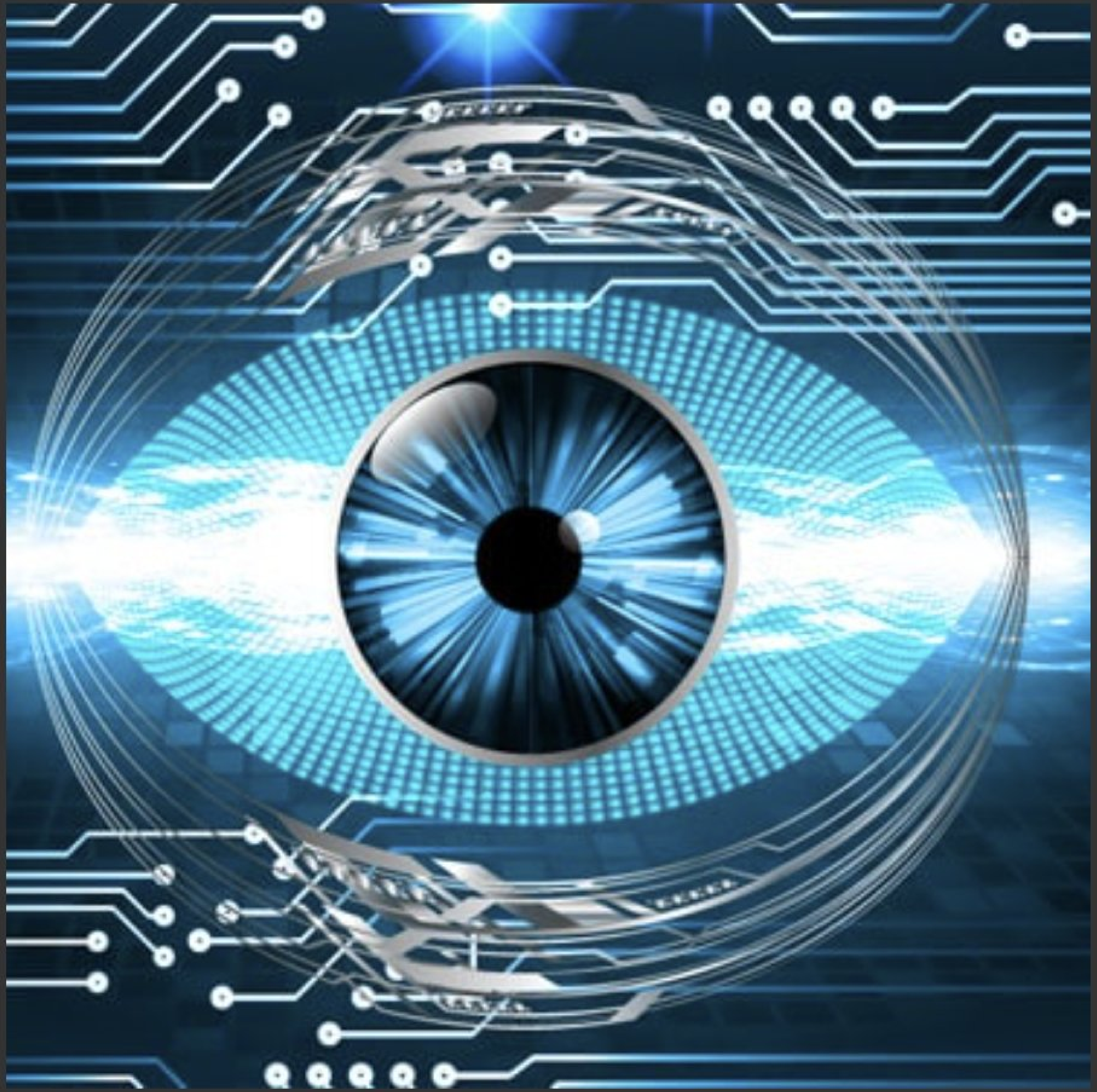
```yaml
service: aws-assignement-service

provider:
  name: aws
  runtime: nodejs8.10
  stage: ${opt:stage, 'dev'}
  apiGateway:
    minimumCompressionSize: 1024 # Enable gzip compression for responses > 1 KB
    shouldStartNameWithService: true
  environment:
    stage: ${self:provider.stage}# Plugins used in this project
# https://www.serverless.com/plugins/serverless-offline
# https://www.serverless.com/plugins/serverless-dynamodb-local
# https://www.npmjs.com/package/serverless-dynamodb-client
custom:
  s3Bucket: yourBucketName123
  config: ${file(./config.${self:provider.stage}.yml)}
  dynamodb:
    stages:
      - dev
    start:
      port: 8000
      inMemory: true
      migrate: true
      seed: true
    seed:
      test:
        sources:
          - table: ${self:provider.stage}_users
            sources: [./local-data/users.json]
# Plugins used in this project
# https://www.serverless.com/plugins/serverless-offline
# https://www.serverless.com/plugins/serverless-dynamodb-local
# https://www.npmjs.com/package/serverless-dynamodb-client

plugins:
  - serverless-dynamodb-local
  - serverless-offline
# Binsess logic and (eventually) triggers for the Application
functions:
  Demorequest:
    handler: src/handler.users
    role: LambdaDynamoRole
    events:
      - http:
          path: test
          method: get
          cors: true
          authorizer:
            type: COGNITO_USER_POOLS
            authorizerId:
              Ref: AWSAssignmentApiGatewayAuthorizer

#Lambda function that will be called every time an user in the users table gets added deleted or modified NOTE: For this excercise the lambda function IS NOT IMPLEMENTED
  ElasticSearch:
    handler: src/elastic_search/handler.elasticsearch
    role: LambdaElasticSearchRole
```

Computer Vision applied



Receiving video files

Upon receiving a video file in Thanos a workflow analysis checks the media content and compares it with the expected values.

After this first quality check, the files get scanned by an AI to check the content looking for possible errors such as:

- Too high numbers of black frames within a time frame

- Presence of nudity

- Presence of alcohol

- Presence of tobacco adverts

The result of the process gets communicated to the Reviewer that will action the content accordingly

Safe
Appropriate
Female
100%
Eyes are open
100%
Happy
97.4%
Smiling
100%

Content moderation

Detect potentially unsafe, inappropriate, or unwanted content across images and videos.

Learn more »

Face compare and search

Determine the similarity of a face against another picture or from your private image repository.

Learn more »

Face detection and analysis

Detect faces appearing in images and videos and recognize attributes such as open eyes, glasses, and facial hair for each.

Learn more »

Labels

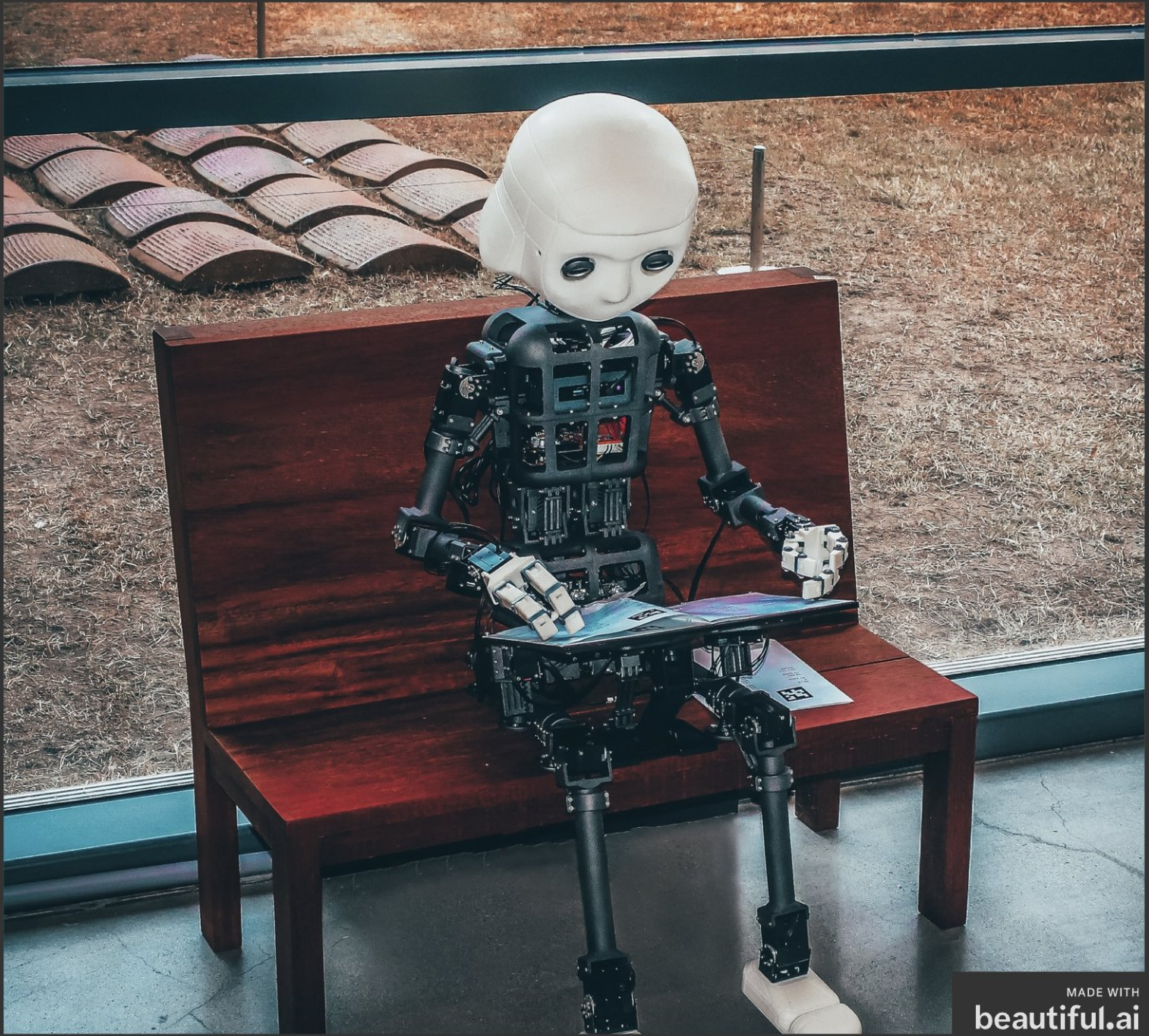
Custom labels

Text detection

Ready to see

Computer Vision Video Analysis

in action?



Rekognition Console - Chromium
Rekognition Console
Meet - xwu-wgko-rxb
Alpha Cogs Pisa Universit
us-east-1.console.aws.amazon.com/rekognition/home?region=us-east-1#/ppe
aws
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
Alpha Cogs
New

Amazon Rekognition

- Custom Labels
  - Use Custom Labels
- Demos
  - Label detection
  - Image moderation
  - Facial analysis
  - Celebrity recognition
  - Face comparison
  - Text in image
  - PPE detection
- Video Demos
  - Stored Video Analysis
  - Streaming Video Events
- Metrics
  - Metrics
- Additional Resources
  - Getting started guide
  - Download SDKs
  - Developer resources
  - Pricing
  - FAQ
  - Forum

Automatically detect Personal Protective Equipment (PPE) such as face covers, head covers, and hand covers on persons in images. Learn more

Summarization inputs

Provide the following Required PPE and Required minimum confidence threshold inputs to get an identifier summary of persons with required PPE, without required PPE, and indeterminate.

Required PPE: ☑ Face cover ☐ Hand cover ☐ Head cover

Required minimum confidence: 80% ▼

Results

Summarization results

Persons with required equipment (Ids):	[0]
Persons without required equipment (Ids):	[ ]
Persons indeterminate (Ids):	[ ]

Per-person results

Person ID: 0/0

Person detected	99.9 %
Face detected	99.9 %
Face cover detected	99.8 %
Face cover on nose : true	98.5 %
Left hand detected	96.8 %

meet.google.com is sharing your screen. Stop sharing Hide

Feedback Looking for language Unified Settings

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