



Chooch AI Technical Overview

Chooch Cloud AI

Chooch Cloud AI is a cloud-based computer vision platform for ingesting visual data, annotation, training, model generation, testing and inferencing in the cloud via API. Models are also distributed to Chooch Edge AI. Models can be trained for any Visual AI task, such as Action Recognition and Object Detection. To date, Chooch AI has generated 2400 models for clients and partners.

Chooch Edge AI

Chooch Edge AI is a lightweight AIoT deployment which is generated in Chooch Cloud AI and can be configured for any existing IoT infrastructure or designed as a bespoke Chooch solution. Trained models are automatically deployed to the edge through the cloud dashboard and API.

Technology Differentiators

Speed, accuracy and flexibility distinguish Chooch AI from existing computer vision technologies. The training dashboard ingests any type of visual data, which can generate over 1000 annotated images per minute. The deep learning processes built into Chooch AI leverage multiple frameworks, allowing for contextual models with inference speeds as low as 0.02 seconds. The facial authentication models were created with over 1 million faces, with multiple models powering liveness detection. The platform itself allows for extreme elasticity so that new models can be developed for existing deployments based on new business requirements.

Chooch Cloud AI Features

- Fast response time and high accuracy
- Rapid cloud training and deployment
- API connects cloud, edge & imaging devices
- Edge Devices are assigned unique IDs
- Models remotely deployed from cloud
- High model flexibility

Edge AI Features and Requirements

- Edge AI Features and Requirements

Standard deployment: [GPU](#) or [CPU](#)

Internet connection required to:

- Receive updates
- Send alerts and reports

CHOOCH CLOUD AI

Platform	Inference Speed	Trainable Models	Pre-Trained Models	Load	Accuracy	Features
Face	0.2 seconds	Multiple	4	200 API calls/sec/GPU	99.9%	Liveness Detection Sentiment Detection
Image	0.2 seconds	Multiple	78	200 API calls/sec/GPU	90% +	Automatic Labeling Dense Classification
Object	0.4 seconds	Multiple	6	200 API calls/sec/GPU	90% +	Segmentation Annotation Tool Dense Classification
Text	0.2 seconds	No	1	200 API calls/sec/GPU	90%	Text Detection and Recognition in the Natural Environment

CHOOCH CLOUD AI PROCESSING

GPU Architecture	NVIDIA Turing
NVIDIA Turing Tensor Cores	320
NVIDIA CUDA Cores	2,560
Single-Precision	8.1 TFLOPS
Mixed-Precision (FP16/FP32)	65 TFLOPS
INT8	130 TOPS
INT4	260 TOPS
GPU Memory	16 GB GDDR6 300 GB/sec
ECC	Yes
Interconnect Bandwidth	32 GB/sec
System Interface	x16 PCIe Gen3
Form Factor	Low-Profile PCIe
Thermal Solution	Passive
Compute APIs	CUDA, NVIDIA TensorRT, ONNX

GENERAL SYSTEM DATA

Operating System	Linux Ubuntu
Connection	API https://chooch.ai/api/
General Languages	Python, Django, Swift
Deep Learning Frameworks	Gluon, TensorFlow, TensorRT, Keras, PyTorch, MXNet
Neural Nets and Networks	U-Net, ResNET 18, 34, 50, 152, Faster R-CNN, YOLO
Libraries	ImageNet, COCO Library, SpaceNet, Dlib

CHOOCH EDGE AI

Platform	Inference Speed	Deployable Models/ Device	Pre-Trained Models	Load	Accuracy	Features
Face	0.04 sec	5 models	3	10 calls/sec	99.9%	Liveness, Sentiment
Image	0.04 sec	5 models	78	10 calls/sec	90% plus based on data	Dense Classification
Object	0.04 sec	5 models	6	10 calls/sec	90% plus based on data	Dense Classification
Text	0.04 sec	N/A	1	10 calls/sec	90%	Text Detection and Recognition

CHOOCH EDGE AI PROCESSING SYSTEM REQUIREMENTS

Minimum Hardware Requirements	
8th to 10th generation Intel® Core > i7 (suggested i9)	
3rd generation Intel® Xeon® Scalable processors	
16GB ram (suggested 32GB)	
256 GB SSD hard disk	
Operating System Requirements	
Ubuntu 18.04.3 LTS (64 bit)	
3rd Party Software Requirements	
Nvidia Driver	

GENERAL SYSTEM DATA

Operating System	Linux Ubuntu
Connection	API https://chooch.ai/api/
General Languages	Python, Django, Swift
Deep Learning Frameworks	Gluon, TensorFlow, TensorRT, Keras, PyTorch, MXNet
Neural Nets and Networks	U-Net, ResNET 18, 34, 50, 152, YOLO
Libraries	ImageNet, COCO Library, SpaceNet, Dlib
Tools	OpenCV, CUDA, Jupyter
Database	Postgresql