

## Benchmarking Face Recognition Services

	Microsoft Cognitive Services(Face API)	Face++	AlchemyAPI-IBM*	SkyBiometry	Kairos
Average Accuracy	88.75%	86%	82.75%	79.95%	55.6%
Female Accuracy	87.6%	85.1%	79.1%	79.7%	63.4%
Male Accuracy	89.9%	86.9%	86.4%	80.2%	47.8%
Supported Image Format	JPEG, PNG, GIF, and BMP	JPEG, PNG, GIF, and BMP	JPEG, PNG, and BMP	JPEG, PNG, BMP	JPEG and PNG,
minimum detectable face size	36x36 pixels	16x16 pixel	Not Specified	150X150 pixels	no minimum image dimension but at least 64 pixels between a subject's two eyes
Required Image Size	smaller than 4M	smaller than 3M	smaller than 1M	smaller than 2M	Not Specified
Attributes	age, gender, headPose, smile and facialHair, and glasses	gender, age, race, smiling, glass and pose	gender, age,identity if it is a celebrity	gender, age, emotions, glasses, dark glasses, eyes, smile recognition	gender,age, glasses
Confidence	Not Provided	Provided	Provided	Provided	Provided
Limit	30000/month free call	Basic API service Unlimited	1000/day free call	5000/day free call	5000 free call for a new user

Notes: Now merged into IBM Visual Recognition\*

Key Terms:

- gender: prediction of the genders of the identified faces
- age: estimation of the age of the identified faces
- race : race of the identified faces such as asian, white
- confidence: the score from 0-100% interval.
- facial hair: indicate the facial hair length of the available faces
- glass: verify the person is wearing the glasses or not
- smile: verify the person is smiling or not
- pose: the information to describe the face in 3D orientation, this includes pitch, roll and yaw

## References:

### Face++:

<http://www.faceplusplus.com>

### AlchemyAPI-IBM

<https://www.ibm.com/smarterplanet/us/en/ibmwatson/developercloud/doc/alchemyvision/index.shtml#usingAlchemyVision>

### SkyBiometry

<https://skybiometry.com/faq-2/>

### Microsoft Cognitive Services(Face API):

<https://dev.projectoxford.ai/docs/services/563879b61984550e40cbbe8d/operations/563879b61984550f30395236>

### Kairos

<https://www.kairos.com/docs/api/best-practices>