

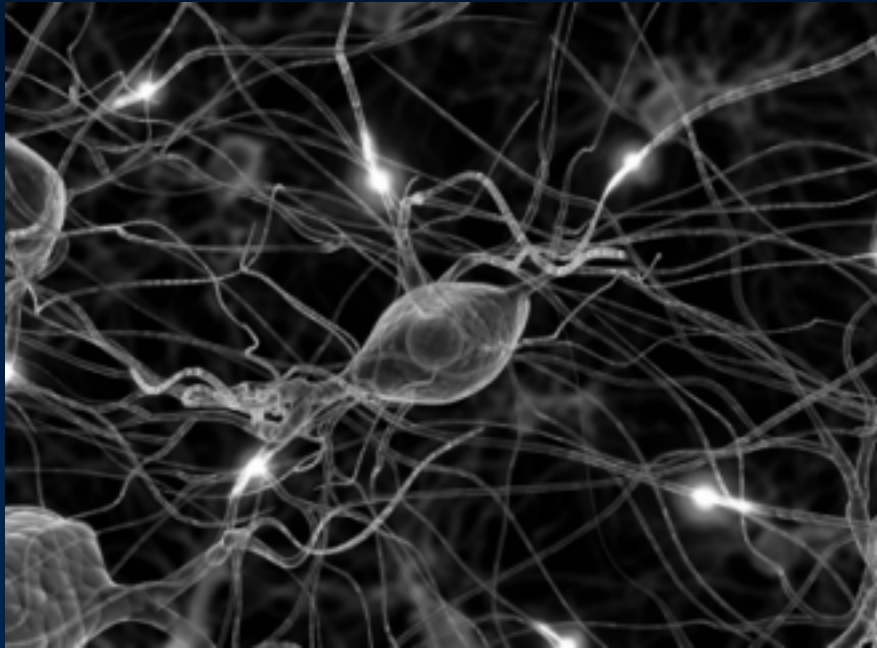


# PRODUCTAI

Unlock the unlimited potential of artificial intelligence.

MALONG TECHNOLOGIES

**MALONG TECHNOLOGIES** is on a mission to help its enterprise customers transform with AI to achieve higher efficiency, quality and safety, by creating machines that can "see" physical objects such as products -- just like a person can. Our world-class R&D team performs award-winning scientific research in deep learning and computer vision, and makes the technology available to any business via ProductAI® -- affordable, accurate and secure cloud-based cognitive services & embedded systems.



**Deep Learning**



**Computer Vision**

# PRODUCTAI®

State-of-the-art APIs for visual product recognition based on artificial intelligence.

## MAIN FEATURES:

Industry-aware product image retrieval and automatic tagging.

**PRODUCTAI**

为你的产品植入人工智能

邮箱

密码

登录

申请试用

## INDUSTRIES:

All retail products, but with specialty in:  
fashion, furniture, cars, textiles, wine, stock photos, and more!

## PRODUCTAI KEY FEATURES

Full-stack product recognition



### IMAGE SEARCH

Automatically enable a photo search engine interface.



### OBJECT DETECTION

Detect objects within photos, give location (including rectangle) and label them.



### AUTO-TAGGING

Automatically annotate product images with relevant information.



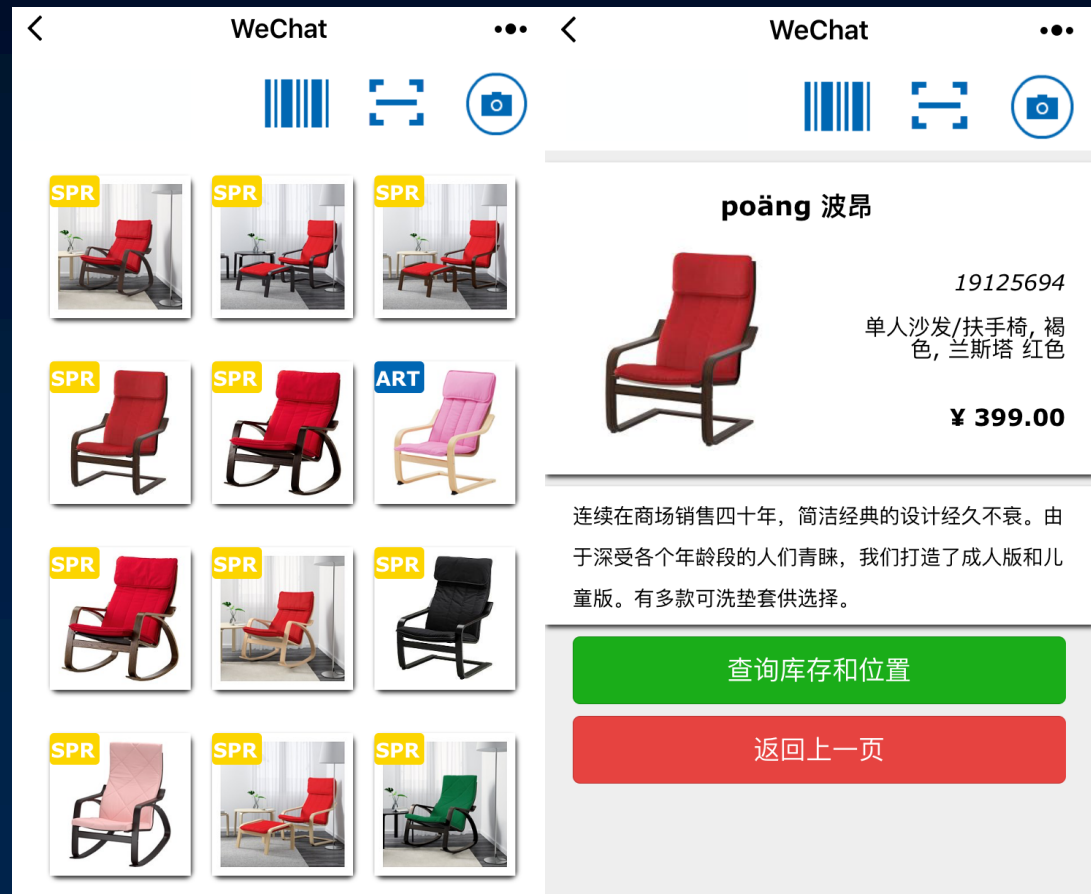
### CUSTOMIZE SOLUTION

Models are architected and trained specifically for select industries.



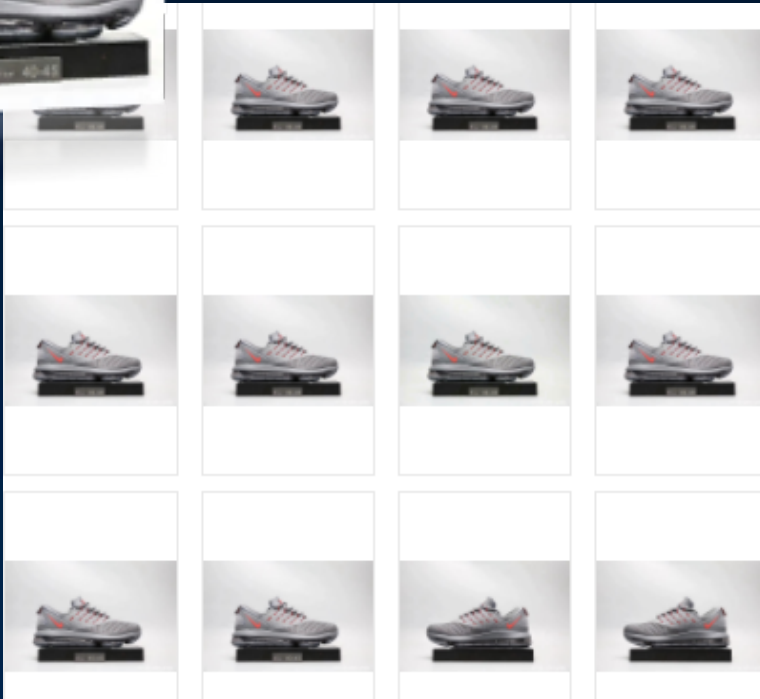
## IMAGE SEARCH

Search within a database the most similar pictures or products.



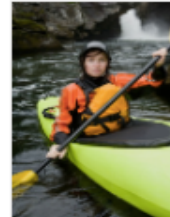
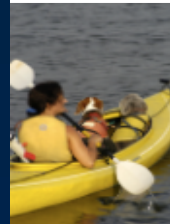
## IMAGE SEARCH DIFFERENT USE CASES

Product search: Fashion, Wine, Textile, Cars, Cosmetic and more



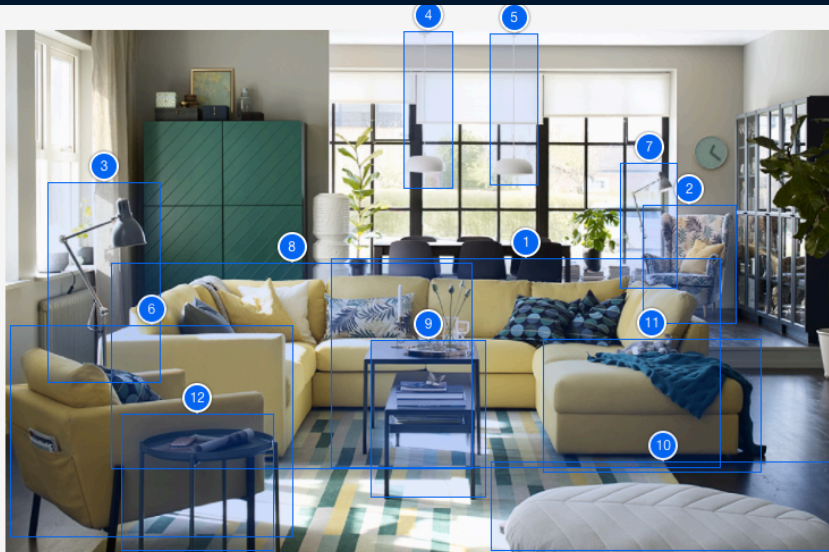
# IMAGE SEARCH DIFFERENT USE CASES

Large-scale semantic visual search

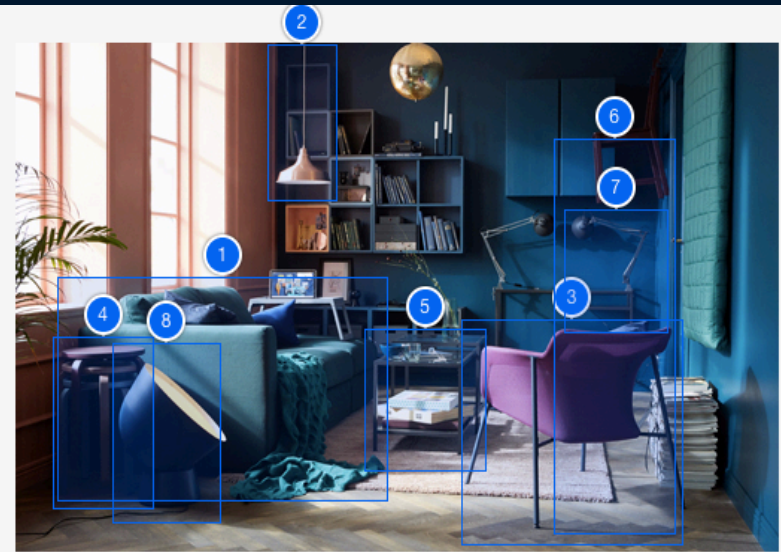


# OBJECT DETECTION

Detect objects within photos, give location (including rectangle) and label them.



1: sofa Score: 0.9829	2: sofa Score: 0.9819	3: floor_lamp Score: 0.9652	4: pendant_lamp Score: 0.9634	5: pendant_lamp Score: 0.9622
6: sofa Score: 0.9405	7: floor_lamp Score: 0.9030	8: sofa Score: 0.8958	9: teapoy Score: 0.7754	10: casamania_pollon_pouf Score: 0.7726
11: casamania_pollon_pouf Score: 0.6933	12: corner_table Score: 0.6827			

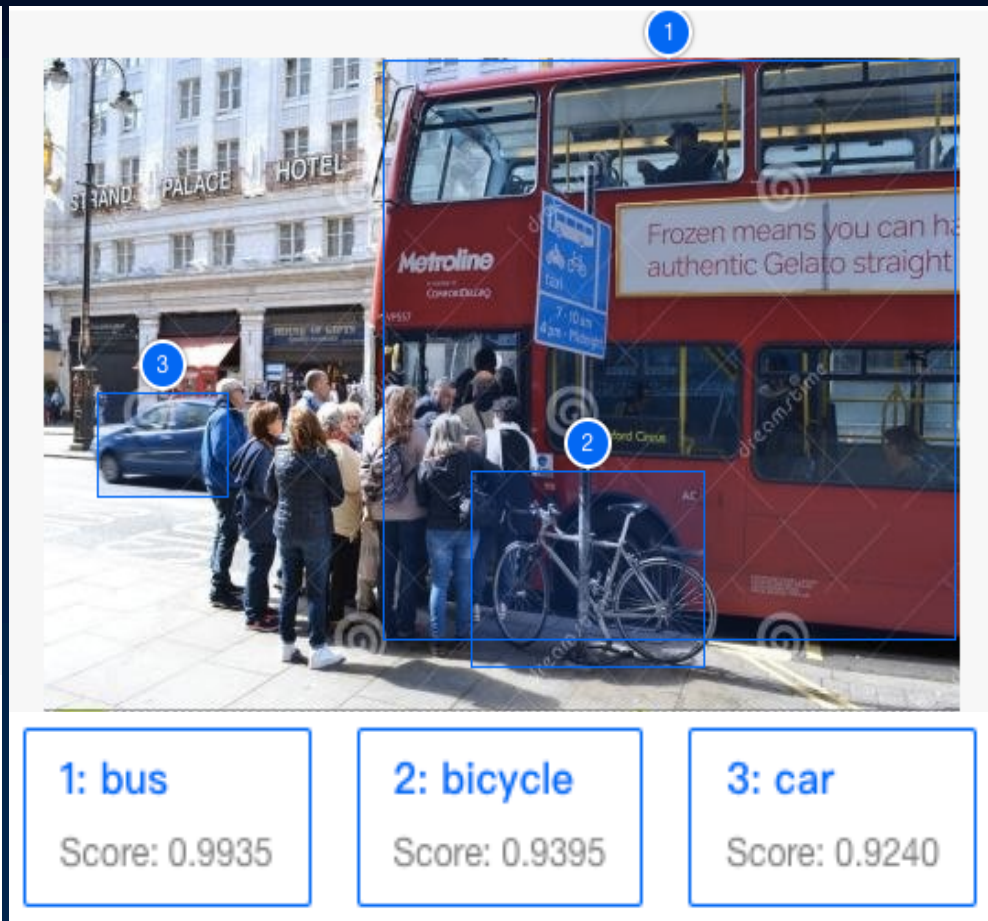
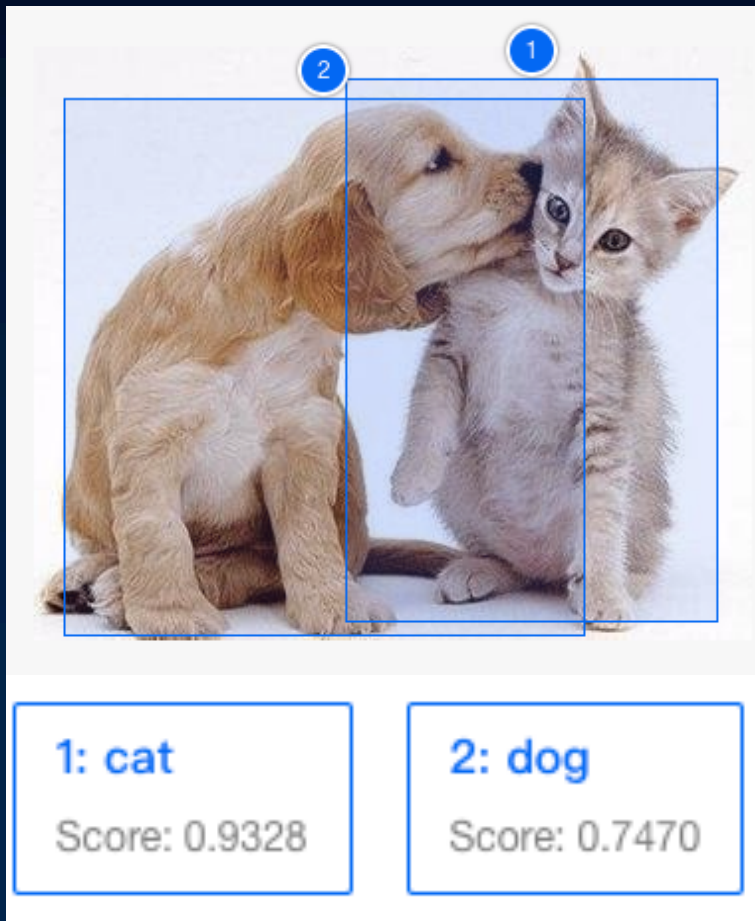


1: sofa Score: 0.9572	2: pendant_lamp Score: 0.8176	3: chair Score: 0.8125	4: corner_table Score: 0.7084
5: teapoy Score: 0.6109	6: floor_lamp Score: 0.6073	7: desk_lamp Score: 0.5321	8: casamania_pollon_pouf Score: 0.5219



## OBJECT DETECTION DIFFERENT USE CASES

Detect objects within photos, give location (including rectangle) and label them.  
Food, Fashion, Pet, Transportation and more.



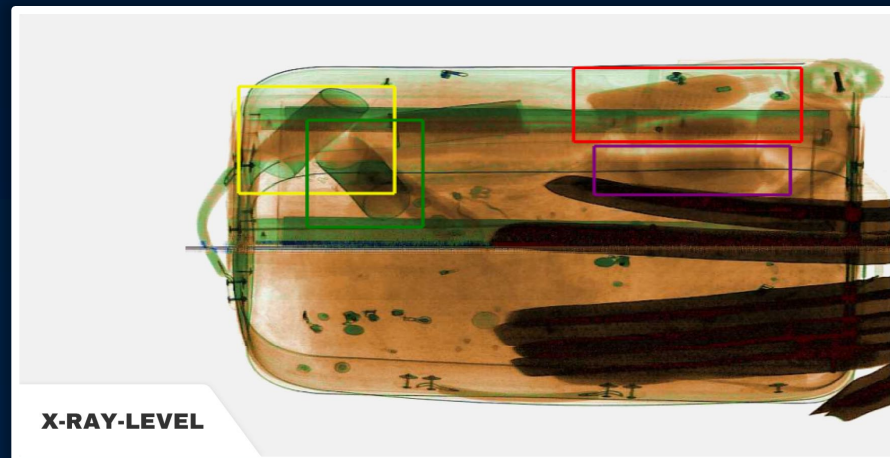
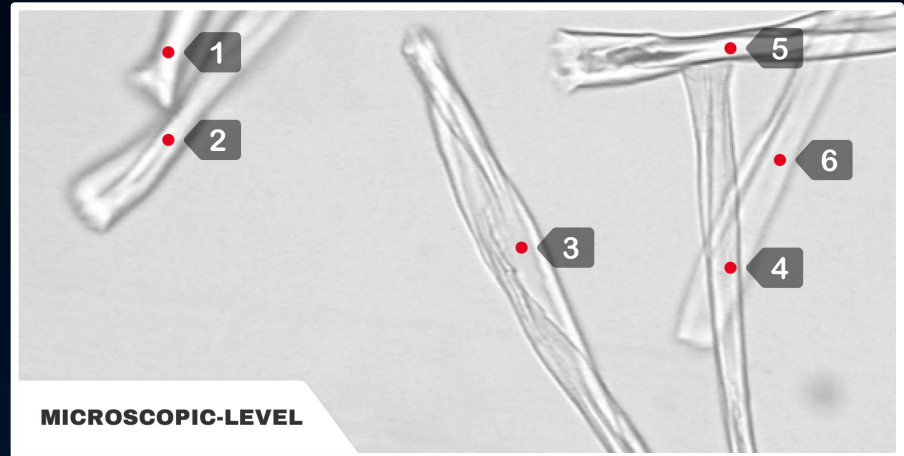


# MULTI-LEVEL PRODUCT RECOGNITION

RETAIL PRODUCT RECOGNITION




FABRIC PRODUCT QUALITY CHECK AT FIBER LEVEL



PRODUCT RECOGNITION IN BAGGAGE SCANNERS

## AUTO-TAGGING

Automatically annotate product images with relevant information.



A modern dining room interior featuring a white dining table, black chairs, and a white cabinet. The room is well-lit with natural light from a window and a pendant light. The background shows a living area with a sofa and patterned curtains.

<b>Horizontal View</b> Score: 0.9000	<b>Chair</b> Score: 0.8103	<b>Dining Room</b> Score: 0.8025	<b>Cabinet</b> Score: 0.8019
<b>Table</b> Score: 0.7984	<b>Plants</b> Score: 0.7981	<b>Drawer</b> Score: 0.7968	<b>Seat</b> Score: 0.7964
<b>Plank</b> Score: 0.7913	<b>Tidy</b> Score: 0.7910	<b>Wood</b> Score: 0.7904	<b>Decorative</b> Score: 0.7903
<b>Blanket</b> Score: 0.7900	<b>Container</b> Score: 0.7894		



# **TECHNICAL ACHIEVEMENTS**

## IMAGE CLASSIFICATION

The new “Olympics of Computer Vision” is WebVision (a successor to ImageNet)

### Challenge Results

#### WebVision Image Classification Task

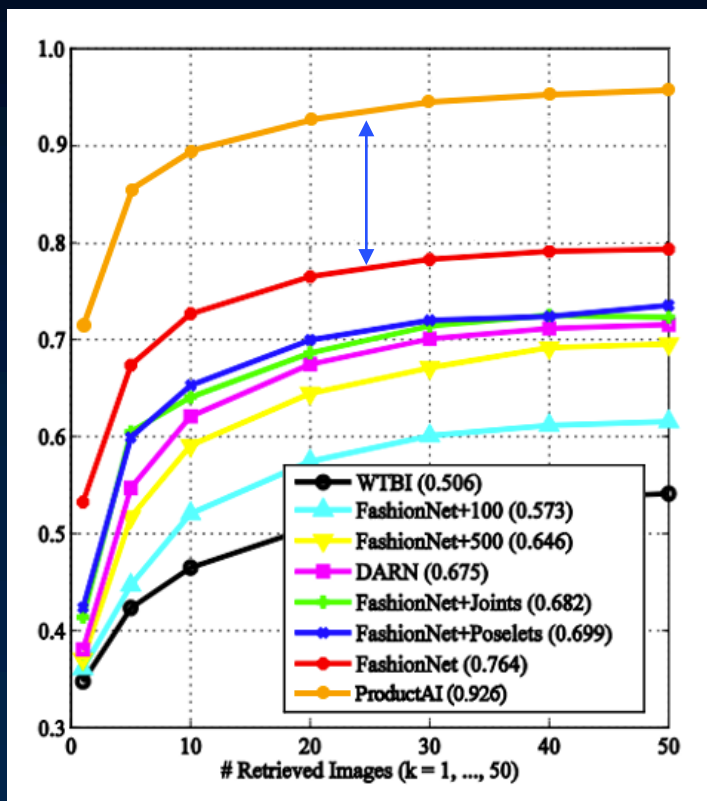
Rank	Team name	Run1	Run2	Run3
1	Malong AI Research	0.9358	0.9467	<b>0.9478</b>
2	SHTU_SIST	0.9223	<b>0.9225</b>	0.9218
3	HG-AI	<b>0.9189</b>	0.9152	0.9152
4	VISTA	0.8979	<b>0.9005</b>	0.8980
5	LZ_NES	<b>0.8853</b>	0.8758	0.8723
6	CRCV	0.8707	0.8717	0.8701
7	Chahrazad	<b>0.8705</b>	0.8705	0.8705
8	Gombru (CVC and Eurecat)	0.8475	0.8374	<b>0.8586</b>

(Over 100 AI teams participated from around the world from both industry and academia.)

Malong solved a key problem that exists with AI today: the dependency on high-quality human annotated data. Malong invented a new way to enable “weakly-supervised” deep learning – and therefore has advantages in speed, cost and accuracy. Key use cases include billion-scale learning from the web and inconsistently labeled medical images. As proof, Malong won first place in Google’s WebVision 2017 Challenge.

## IMAGE RETRIEVAL

The international benchmark on fashion product search is DeepFashion:



Malong ProductAI® has achieved the state-of-the-art performance when compared to the best reported academic and industry results on product related image retrieval and classification tasks on international standard. For example, in fashion product image retrieval, there is a margin of 18%+ performance gain on the international benchmark, DeepFashion.

ProductAI: Wide margin of performance improvement. In absolute terms, outperform their recall@1 by +18%. In relative terms, outperform their recall@1 by +34%.



# NOVEL ALGORITHMS

## Representative Publications:



World-class results reported at latest top conference (CVPR) for Binary Coding / Activity Recognition (“Recognize Action”)



World-class results reported at latest top conference (CVPR) for Zero-Shot Learning (“Training Model With Less Data”)

Additionally, 3 papers published to CVPR 2017 (the best computer vision conference in the world). Also published to other top conferences and journals: 1 SIGIR paper (CCF A), 2 IJCAI (CCF A), 1 IEEE trans on Multimedia (SCI, CCF B)



# **AWARDS & TEAM**

## AWARDS

### Microsoft Ventures

The company was admitted to Microsoft Ventures Startup Accelerator in Beijing, which is a world-class and highly competitive accelerator in China (~2% acceptance rate, 1000+ startups applied). Upon graduating in 2015, the company won the “best of” award, #1 of the 20 startups in its class.



Microsoft recognized the company with its “AI Pioneer” award in 2016, handed by the chairman of Microsoft China, after the company won the #1 first place out of 150 teams in the Microsoft Hackathon in Beijing in 2016.



The company was named as one of the top AI startups by the NVIDIA CEO during his keynote speech in Beijing in 2016. It also won the NVIDIA Emerging AI Company Award 2016 and Cool Demo AI Startup Award 2016.

## AWARDS



The company won the #1 first place in the 2016 Amazon Web Services Hackathon in Beijing, out of 35 competing startups.



The company won the #1 first place in the 2016 GRIN Global Retail Innovation Network startup competition in Shanghai, out of 12 competing companies.



The company won the #1 first place in the 2014 National Startup Competition of China (Shenzhen), out of 5,000+ competing companies.



The company won the #1 first place in 2016 National Big Data Competition of China, out of 13,000+ competing companies.

## AWARDS-MOST RECENT



June 2017, winner in the “Olympics of startups” held at the G20 summit, Young Entrepreneurs’ Alliance (G20 YEA) in Berlin, Germany.



## AWARDS-MOST RECENT



1st Place Award handed by Fei-Fei Li, creator of ImageNet and a Google Chief Scientist for WebVision 2017 -- besting over 100 teams worldwide. Malong AI Research team overpassed the second place by 2.5% in precision – a wide margin in the deep learning community.

# QUOTES

*"The results for the WebVision challenge were recently announced and the top performer was Shenzhen-based Malong Technologies, maker of AI developer tools for image recognition tasks."*

-Forbes

**Forbes**

*"Microsoft Ventures Accelerator performs rigorous technical assessments and found that Malong Technologies outperforms its market counterparts by a large margin."*

-Vanessa Gao, Former CEO  
Microsoft Ventures Accelerator Beijing

Microsoft  
Ventures

*"Chinese startup Malong Technologies creates breakthrough AI platform for visual product recognition."*

-XNode Accelerator  
@XNodeAccelerate



*"Young companies in the country are making a major impact at home and internationally – with Chinese AI startup Malong Technologies recently winning the 'Olympics of Startups' in Berlin."*

-Innovators Magazine



*"Malong Technologies, which specializes in AI-based visual product recognition technology ... has been picked up by 100 companies in a range of industries, including fashion, furniture design, cars, textile and wine with 100 million customers."*

-China Daily



*"Malong Technologies' product recognition AI uses deep learning. In one case, it is used to analyze worldwide fashion color trends to help thousands of textile makers predict global fabric demand. Malong collaborates with the China Textile Innovation Center to distribute AI Fashion reports to the textile industry. This gives it access to a unique data source."*

-Accenture



## TEAM

Includes ImageNet15/CVPR16 winners, top R&D staff from Microsoft Research Asia (MSRA), Google, Tencent, and Baidu; one third of staff graduated from Tsinghua University (“the MIT of China”).

UNIVERSITY OF  
OXFORD清華大學  
Tsinghua University

IMAGENET

Dartmouth

北京大學  
PEKING UNIVERSITY

UCLA

中國人民大學  
RENMIN UNIVERSITY OF CHINA

中國科學院

復旦大學  
FUDAN UNIVERSITY中山大學  
SUN YAT-SEN UNIVERSITYKEDGE  
BUSINESS SCHOOL

# DINGLONG HUANG

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Co – Founder · CEO

Dinglong obtained his doctorate degree from Tsinghua University, and majored in Human-Computer Interaction. He previously worked at TripAdvisor as Vice President of products in China, and also worked at Google, Microsoft, and Tencent.



# MATT SCOTT

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Co – Founder · CTO

Matt previously worked at Microsoft for 10 years, primarily in Microsoft Research as a senior member of technical staff in the Innovation Engineering group. He has published over 40 international patents, a dozen papers to scientific conferences and journals, and has 15+ years R&D experience in computer vision and machine learning.





UNLOCK THE UNLIMITED POTENTIAL OF  
ARTIFICIAL INTELLIGENCE



**THANK YOU**

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