I²OT- Embedded Vision and Embedded Intelligence

Dr. Ren Wu
renw@novumind.com

NOVUMIND
Making Things Think
Dr. Ren Wu

- **Founder and CEO, NovuMind Ltd.**
- Distinguished Scientist, Baidu
- HSA Chief Software Architect, AMD
- PI, HP Labs CUDA Research Center
- World Computer Xiangqi Champion

- **AI expert**
- **HPC expert**
- **Big Data Analytics expert**
- **Heterogeneous Computing expert**
- **Computational scientist**
I have no time to see a salesman, I've got a battle to fight.
AlphaGo VS Human Master

DeepMind secretly unleashed its Go-playing AI online, and it beat some of the world’s best players 50-0

Deborah Koons Garcia
June 26, 2017, 12:03 AM

The creation of a superintelligent artificial intelligence (AI) that has beaten some of the world's best human players on the board game Go became the world’s first major achievement for Google DeepMind.

Demis Hassabis, the founder and CEO of Google DeepMind, told Business Insider in an exclusive interview that the AI, called AlphaGo, has been trained to surpass human players at the game.

Hassabis said that the development of AlphaGo has been a long process, but the breakthrough came when Google researchers discovered a new method for training the AI.

“We think that the AI has made significant progress in playing the game,” Hassabis said.

Google's AlphaGo AI secretly won more than 50 straight games against the world's top Go players.

When Google's artificial intelligence program AlphaGo made history by taking down Korea’s Lee Sedo—one of the world's best Go players—in a landslide 6-1 victory in...

Matthew Yohe
DeepMind
January 26, 2017
Computational power is the key
Deep Blue VS Gary Kasparov
Computational power is the key
AI’s future: from better to everywhere
Cloud Computing: What’s Missing?

THE INTERNET OF THINGS
AN EXPLOSION OF CONNECTED POSSIBILITY

2020
7.6 Billion
50 Billion
6.58

2015
7.2 Billion
25 Billion
3.47

2010
6.8 Billion
12.5 Billion
1.84

2003
6.3 Billion
500 Million
0.08

WORLD POPULATION
CONNECTED DEVICES
CONNECTED DEVICES PER PERSON

Image source: Cisco

© Dr. Ren Wu
Cloud Computing: What’s Missing?

Moving data around is expensive, **very expensive**!
And how about no connection?
Cloud Computing: What’s Missing?

How about privacy?

"Why do I have the feeling that your parents don't trust me?"
Deep Learning: Two Steps

Supercomputers used for training

And then deploy the trained models everywhere!

Datacenters

Tablets, smartphones

Wearable devices

IoTs
What's Next?

Dedicated Hardware + Heterogeneous Computing

* Mark Horowitz
Heterogeneous Computing
Heterogeneous Computing
Embedded Vision

Intelligent Internet of Things

I²oT
Embedded Intelligence

Intelligent Internet of Things

I²oT
NovuTechnologies

**NovuStar**
Supercomputer specially designed for AI, providing industry leading performance for AI training

**NovuFlow**
Hardware accelerators offer best performance and power efficiency for AI applications

**NovuBrain**
Little brain that senses, processes, reacts and adapts to its own environment and interacts with rest of the world - intelligently.
Intelligent Internet of Things

Everything Connected

Big data era

Everything Intelligent

AI era

I²oT

Powered by NovuMind

© Dr. Ren Wu