

## SCOPE

#### Part I: Al and China

- × Al Can ...
- Al and OODA Loop
- Al is Dual Use Tech
- China's Achievements in Al
- PLA's *Intelligized* Military Revolution

#### Part II: China's Path to Success

- × Political Will
- National Al Development Plan
- Strength in Chinese Academia
- Chinese DPSU
- Chinese Pvt Sector / Startups
- Civil-Military Fusion



## AI CAN ...









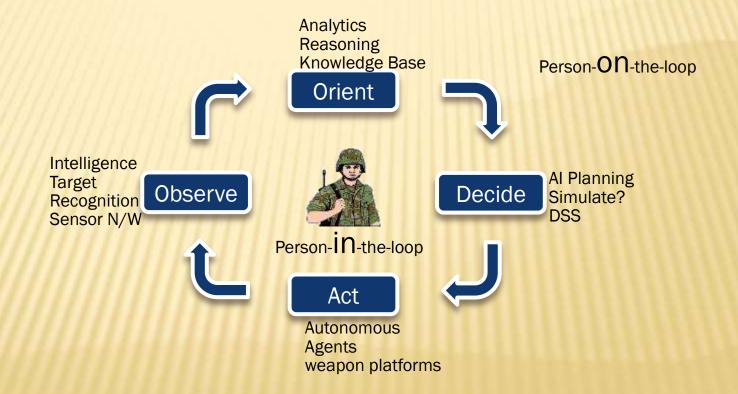




## AI IS A DUAL USE TECHNOLOGY

Peaceful Use	<u>Mil Use</u>
Autonomous Taxi / Ambulance	Autonomous Tank
Game Playing	War Gaming
Navigation assistance to a Blind Person	Navigation assistance to SF
Voice Recognition for Public Inclusive Initiatives	Voice Recognition for Intelligence
Image Recognition for Public Service	Image Recognition for Surveillance
Robots for Industrial application	Robots as soldiers

## MILITARY DECISION MAKING THE OODA LOOP



#### CHINA'S ACHIEVEMENTS IN AI

- Baidu, now a world leader in Al
- Neural Compute Chips DianNao and Thinker
- Imagenet Large Scale Visual Recognition Challenge (ILSRVC):-
  - 2015: 25 out of 67 Teams from China winning 4 out of 5 main categories
  - + 2016: 33 out of 82 Team from China winning all main categories
- **×** iFLYTEK considered world leader in Speech Recognition
- ▼ Tencent's deep learning platform Mariana





# PLA'S 'INTELLIGIZED' MILITARY REVOLUTION

Demo UAV Swarm in Guangzhou Airshow in February 2017.



Sharp Claw 2



Autonomous Crew Task Support Vehicle Continued...

### PLA'S 'INTELLIGIZED' MILITARY REVOLUTION

- Intelligent Cruise Missile
- Intelligent Decision Support System
- System of Systems and Integration of various functions

# CHINA'S PATH TO SUCCESS

#### POLITICAL WILL

- March 2017: Chinese Premier Li Keqiang "Al an opportunity to build strategic capability".
- 300,000 reduction of troops and increase in budget by 7% in 2017.
- July 2017: National Al Development Plan announced by Chinese State Council.

#### ORGANISATIONAL SUPPORT TO ALIN CHINA



#### NATIONAL AI DEVELOPMENT PLAN

- Announced by The Chinese State Council in July 2017.
- Al is a Strategic Technology and is the new focus of international rivalry.
- Safeguard National Security.
- Match the cutting edge AI technology with the world by year 2020.
- Make major breakthroughs by 2030.
- Quantum Computing and Al.

# MILITARY ASPECTS IN NATIONAL AIDEVELOPMENT PLAN

- Safeguard National Security
- Strengthen Military Civil Integration in the field of Al
- Establish a communication and coordination mechanism for Research Units, Industry, Universities and Military Units
- Al in Command & Decision Making, Military Deductions and Defence Equipment
- Promote rapid incorporation of AI in National Defence Innovation

#### 'STRENGTH' OF CHINESE ACADEMIA



National University of Defence Technology (5,400 Papers)



Naval University of Engineering (1,000 Papers)



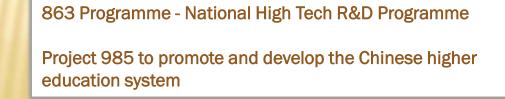
Armoured Engineering Academy

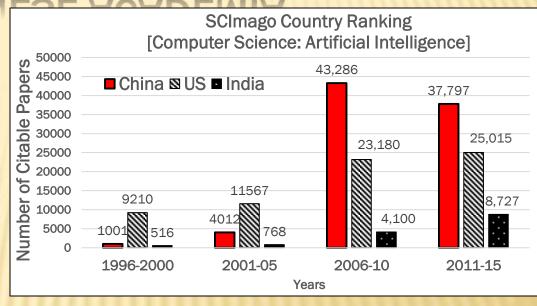


Harbin Institute of Technology



Chinese Association for Artificial Intelligence





IISc ~ 5,000 Papers

## CHINESE DPSU



Aviation Industries Corporation of China (AVIC)

Revenue: \$ 60 Bn



China North Industries Group Corporation (NORINCO Group)

Revenue: \$ 58 Bn



China Electronics Technology Group (CETC)

Revenue: \$ 26 Bn



Hindustan Aeronautics Ltd Revenue: **\$ 2.6 Bn** 



Bharat Electronics Revenue: **\$ 1 Bn** 

### **CIVIL-MILITARY FUSION**

- Chinese People's Political Consultative Conference (CPPCC)
- Robin Li invited Chinese Military to participate in China Brain Project
- Central Commission for Integrated Military & Civilian Development (CCIMCD)



#### MILITARY THINK TANK

- Maj Gen An Weiping, Deputy Chief of Staff, Northern Theatre is a graduate of National Defence University of Science and Technology and has been referred to as a PLA scholar as early as 2004even in a few western publications.
- Maj Gen Li Deyi is an academician and Director of the Chinese Association of Artificial Intelligence.
- Maj Gen Hu Xiaofeng is a professor at National Defence University and is regarded as an expert in simulation and war-gaming.



Maj Gen An Weiping Deputy Chief of Staff Northern Theatre

Source:

ttp://www.baike.com/wiki/%E5%AE%89% E5%8D%AB%E5%B9%B3



Maj Gen Li Deyi Director Chinese Association of Artificial Intelligence

Source:

https://baike.baidu.com/item/%E6%9D% 8E%E5%BE%B7%E6%AF%85

#### CONCLUSION

Political Will ⇒ Policy Framework ⇒ Collaboration among Sectors ⇒ Success.

Combat potential comparison need to include potential to in house create and deploy new technology in Battle Space.

Defence Forces are the projection of the strength of the nation. Strength comes from every citizen, University and Industry.

Higher Education System is also a Strategic Asset in addition to the Industrial Base.

