



AIネットワーク社会推進フォーラム

March 13, 2017

# AIネットワーク化と智連社会

## AI NETWORKING & WISDOM NETWORK SOCIETY

JUNICHI HAMADA

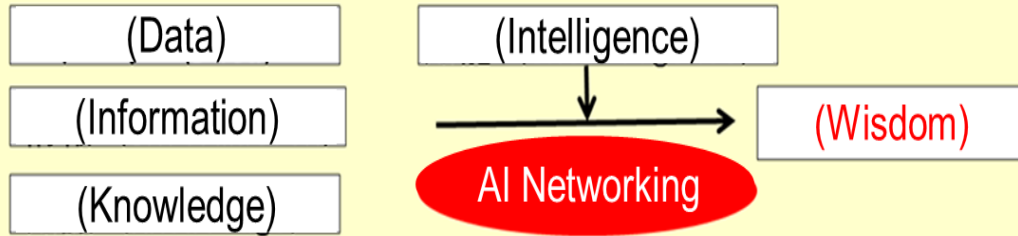
PROFESSOR EMERITUS OF THE UNIVERSITY OF TOKYO

# REPORT 2016 “IMPACTS AND RISKS OF AI NETWORKING”

智慧“CHIE”: WISDOM

智連社会“CHIREN-SHAKAI”: WISDOM NETWORK SOCIETY(WINS)

From “Knowledge” to “Wisdom”



Advanced Information and Telecommunications Network Society (starting 2000)

Knowledge-based society (to 2030)

(Wisdom Network Society) [WINS]

Relationship of “Data”, “Information”, “Knowledge”, “Intelligence” and “Wisdom”

Data	Fragmented facts/numerics/texts
Information	Combination of Data with meaning
Knowledge	Systematic accumulation of Data/Information
Intelligence	Function to study and analyze Data/Information/Knowledges so as to create brand-new Data/Information/Knowledges
Wisdom	<u>Human’s ability to use Intelligences based on Data/information/Knowledges</u> so as to design the appropriate status of humans or societies and resolve relevant issues

Source: AIネットワーク化検討会議 報告書2016「AIネットワーク化の影響とリスク -智連社会(WINS)の実現に向けた課題-」(June 2016),

[http://www.soumu.go.jp/main\\_content/000425289.pdf](http://www.soumu.go.jp/main_content/000425289.pdf)

# 智慧と智連社会

## What are “*chie*” & “*chiren-shakai*”?

智慧“*chie*”: Wisdom is human's ability to use intelligences based on data/information/knowledges so as to design the appropriate status of humans or societies and resolve relevant issues.

智連社会“*chiren-shakai*”: Wisdom Network Society (WINS) is a concept of a human-centered society in which humans live with Networked AI Systems symbiotically, and create, distribute and link data/information/knowledges freely as well as safely to formulate Wisdom Networks, and thereby progress mutual cooperation among persons/things/events in various fields beyond the boundaries of respective spaces, and consequently creative and dynamic developments are expected to be brought about.



# 「智慧」へのアプローチ例

## HOW TO APPROACH “CHIE: WISDOM”

東京大学で学ぶ学生に期待される能力 What does the University of Tokyo aspire to educate students for?

- 総合的な知識 : Knowledge with comprehensive approach and perspectives
- 知識を関連づけて論理的・分析的に思考する能力 : Ability to put relevant knowledge together and to think through logically and analytically
- 文章や事象など事柄の本質を抽出する読解力・観察力 : Ability to read and observe, so as to understand the very essence of various matters including texts and phenomena
- 論理的な表現力 : Ability to express oneself logically

# 東大ロボット・プロジェクト

## “CAN A ROBOT GET INTO THE UNIVERSITY OF TOKYO?” PROJECT

[HTTP://21ROBOT.ORG/](http://21robot.org/)

[HTTP://WWW.NII.AC.JP/USERDATA/RESULTS/PR\\_DATA/NII\\_TODAY/60/ALL.PDF](http://www.nii.ac.jp/userdata/results/pr_data/nii_today/60/all.pdf)

An Automated Deduction and Its Implementation for Solving Problem of Sequence at University Entrance Examination

Authors and affiliations: Yumi Wada, Takuya Matsuzaki, Akira Terui Email author , Noriko H. Arai

【Abstract】

“Todai Robot Project” is a project of artificial intelligence launched by National Institute of Informatics for re-unifying the artificial intelligence field subdivided in 1980s and afterwards. We focus towards attaining a high score in National Center Test for University Admissions, and use Quantifier Elimination (QE) over the real closed fields as a main tool for solving problems in mathematics. However, it is not applicable for several kinds of problems such as one with sequence. In this article, we propose an algorithm for solving problems of sequence at the National Center Test for University Admissions.

Source: [http://link.springer.com/chapter/10.1007%2F978-3-319-42432-3\\_11](http://link.springer.com/chapter/10.1007%2F978-3-319-42432-3_11)





# 人間像の変化 ANY CHANGE IN A CONCEPTION OF “HUMAN BEINGS”?

＜法的な観点から From a legal perspective

強く賢明で独立した理性的な個人（自己決定・自己責任）

Strong, independent, wise and rational individuals (Making decisions autonomously & taking responsibility)



弱く、しばしば不合理な判断をし、助けを必要とする個人

Weak individuals who often make irrational decisions and need help



自立した個人（←自立のための支援）

Self-reliant/independent individuals (←Sometimes supported by communities and/or government )

# AIネットワーク化の中の人間 HUMAN BEINGS IN THE AI NETWORKING

AIによって拡張する人間～「人間拡張の最終相」を越えて  
Beyond M. McLuhan's "final phase of the extensions of man"

AIによって脅かされる人間 Being of "human beings" at risk?

- ✓ AIが使いこなせない Some people cannot catch up with AI...
- ✓ AIを使える者と使えないものの格差 AI may exacerbate the divides between the haves and the have-nots



# AIネットワーク化とコミュニティの再活性化

## AI NETWORKING & REVITALIZATION OF COMMUNITIES

課題の克服は、個人の努力だけではなく、コミュニティの役割の再活性化を通じて ～「智連」(智の連携と協調)の本質的意味

To overcome challenges relating to AI, we need reevaluation and revitalization of the role of communities as well as individual efforts

～The essential meaning of “Chiren” (Collaboration and Cooperation enabled by Wisdom).

The background is a solid green color with a subtle gradient. In the four corners, there are decorative white line-art patterns resembling circuit traces or neural network connections. These patterns consist of straight lines of varying lengths and angles, ending in small white circles. The patterns are more dense in the bottom-left and top-left corners and more sparse in the top-right and bottom-right corners.

Thank you for your attention