विज्ञान र अनुसन्धान: मेरो 'स्यानो' अनुभव

Shashi Raj Pandey, Ph.D. (CSE, Aug. 2021)

Date: 25 July, 2021

NATIONAL SCHOOL of SCIENCES

SUBiSU

HUAWEI

Nepal Telecom

Kyung Hee University

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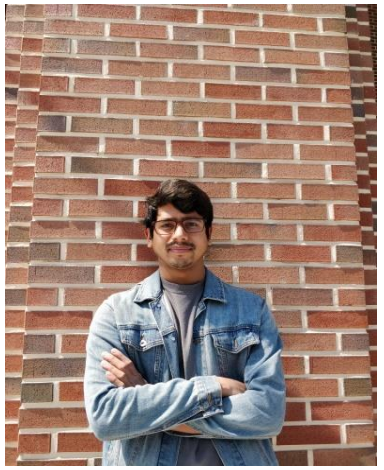
मेरो बारेमा



SLC: Adarsha Yog Hari
H.S.S., Lainchour

NATIONAL
SCHOOL of SCIENCES

High school (Bio/Maths)

a sweet musical break
(of 1 years)

B.E.

Electrical and Electronics, Communication

Network Engineer

HUAWEI

NEPAL TELECOM

(2 years, 2 months)

Ph.D.
C.S.E.
(Aug)

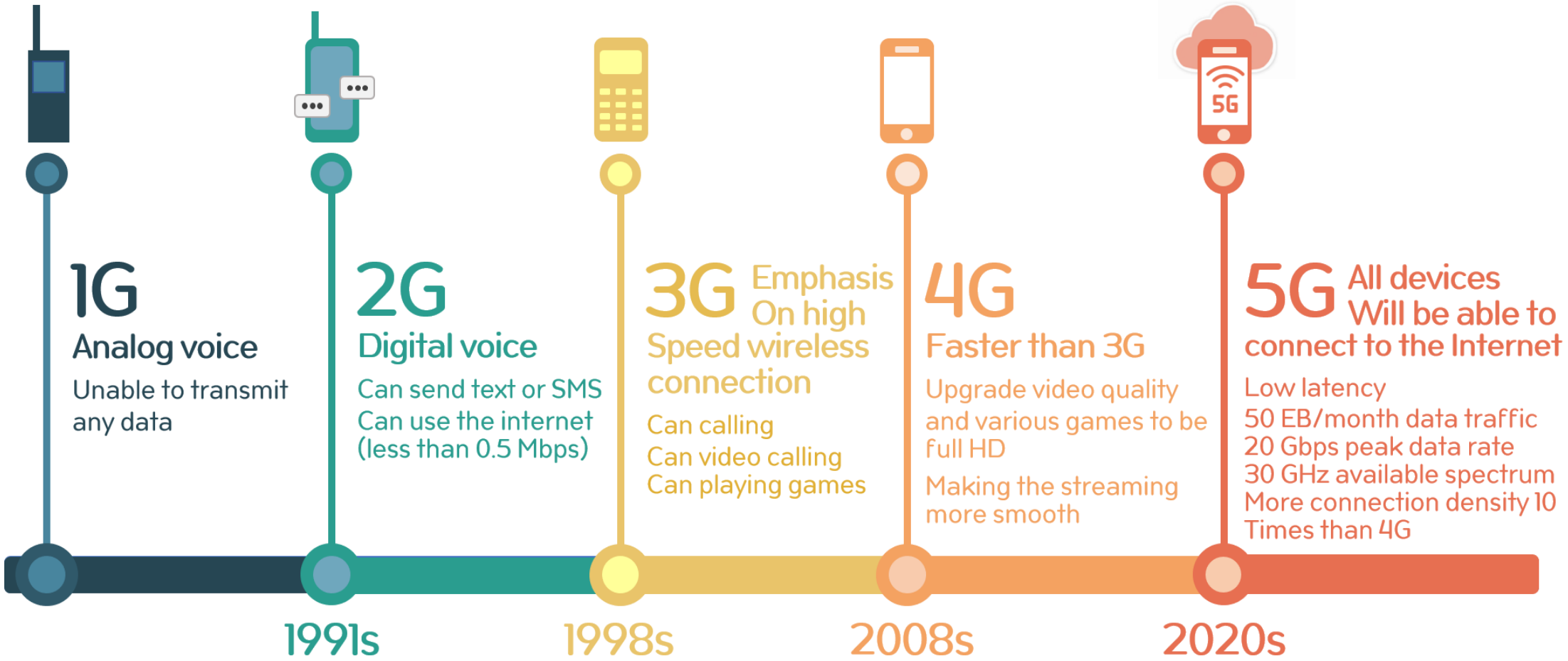
Network Economics | Game Theory |
Wireless Networks | Distributed ML |

Kyung Hee University, South Korea
#8 Korea, # 329 in Asia

https://shashirajpandey.github.io/

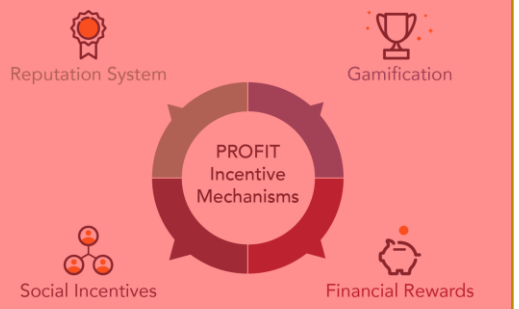
Evolution of Communication Technologies

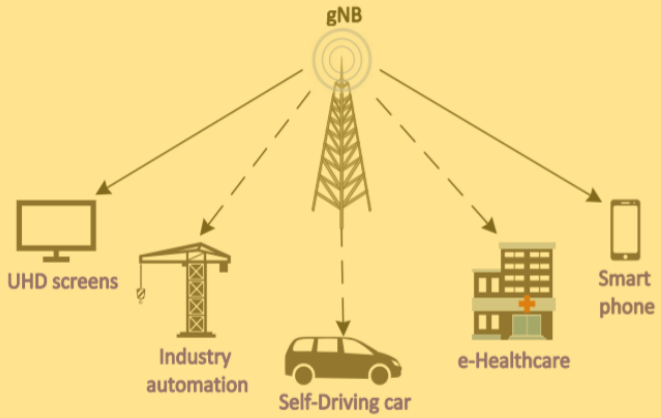
"कटुवाल"

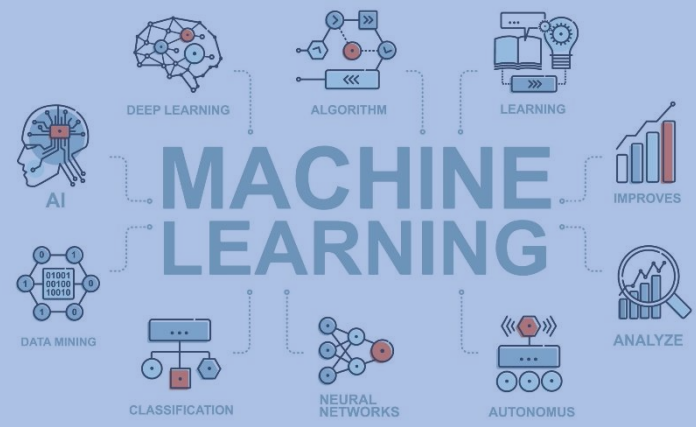


My Research

Economics ∩ Wireless Networks ∩ Machine Learning







Confusion loop!

SEE

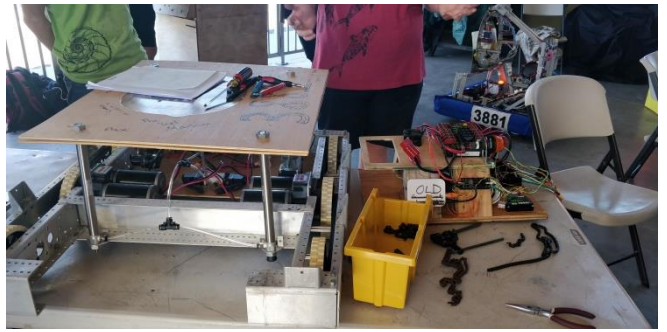
Science (w/ math)

Management

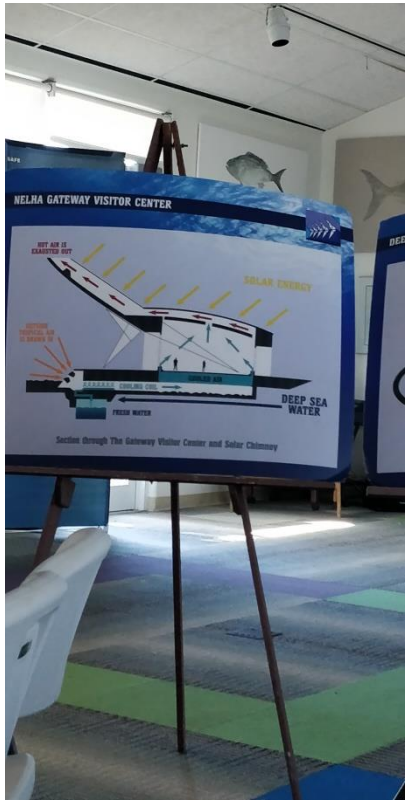
Humanities

West Hawaii Explorations Academy

Open classrooms



Students at work

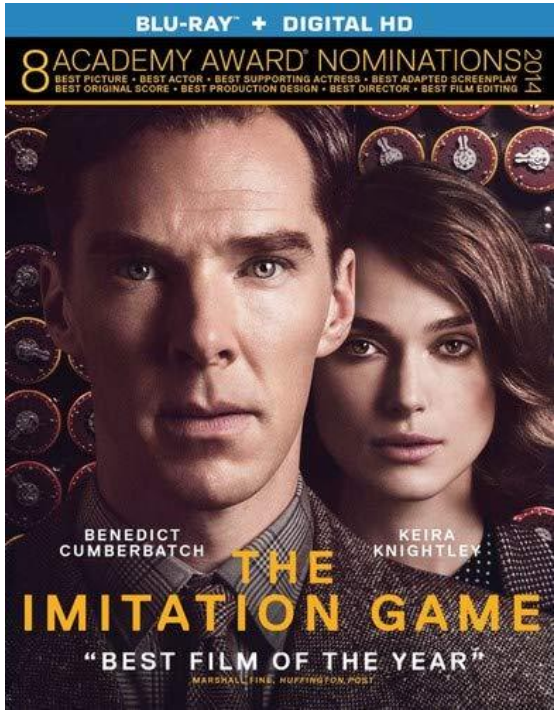


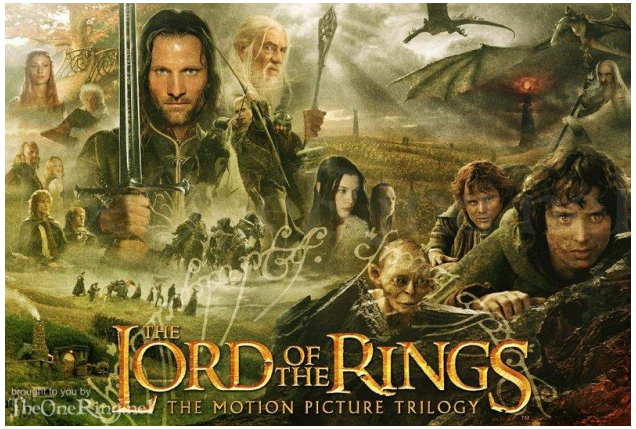
NELHA

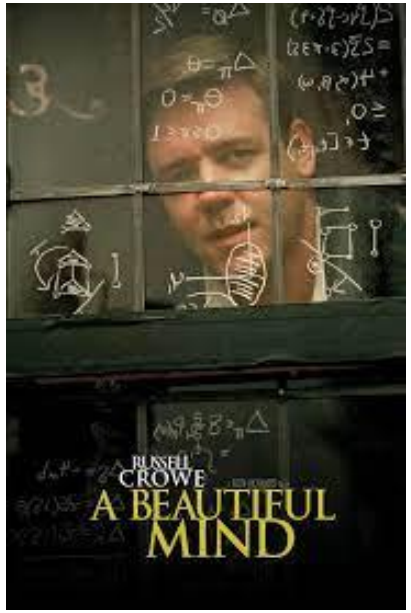
*Computer-generated imagery (CGI)

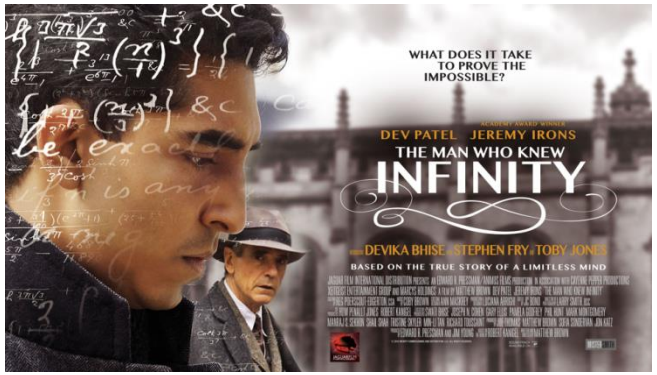
https://www.youtube.com/watch?v=fn3KWM1kuAw

Have you watched these movies?









“S T E M”

Science

Mathematics

Technology

Engineering

STEM to STEAM

Why STEM?

Science Technology Engineering Mathematics

STEM workers enjoy premium wages

32% Males and 12% Females STEM graduates earn in the top income bracket ($104 000 or above)

STEM graduates have transferable skills

An average school leaver will have 17 employers in 5 industry sectors across their lifetime (average tenure is 3 years 4 months in a job).

STEM workers experience relatively low unemployment

STEM unemployment rate is 3.7% vs non-STEM rate of 4.1%,
54% of companies are struggling to find computer science graduates.

STEM jobs are often within innovative fields

Working for progessive companies leads to interesting and challenging work.
75% of the fastest growing occupations require STEM skills.

STEM workers are in demand across the globe

In the US STEM jobs are growing 3 times faster than non-STEM.
An additional 1.25M STEM jobs are required in the UK by 2020.

For more information, go to www.queenslandstem.edu.au

25 STEAM CAREERS to explore

1. Mechanical & Civil Engineer
2. Architect
3. Website/App Designer
4. Modern Urban Planner
5. Orthopedic Technologist
6. Biomedical Engineer
7. Product Designer
8. Animator
9. Forensic Psychologist
10. Sound Engineer
11. Video Game Designer
12. Medical Illustrator
13. Astrophycist
14. Audio Developer
15. Graphic Designer
16. Broadcast Technicians
17. Fashion Designer
18. Interior Designer
19. Photographer
20. Sports Announcer
21. Pilots
22. Astronaut
23. Conservators
24. Archeologist
25. Scientific Imaging

By 2020 the demand for STEM professionals will add OVER 1 MILLION new STEM jobs within the United States workforce

STEM careers have higher job security and average a higher yearly income than most other fields

$77,800/YEAR

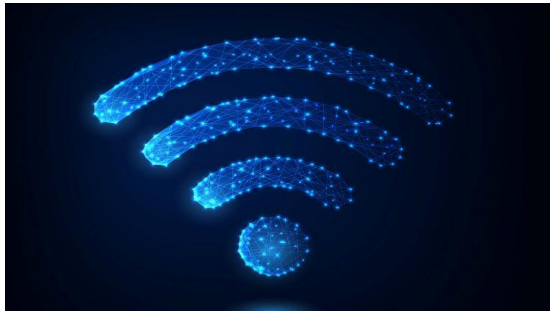
that said…

Understanding Science

Science (from the Latin word *scientia*, meaning "knowledge") is a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe.

-Wikipedia

The **big buzz!!**



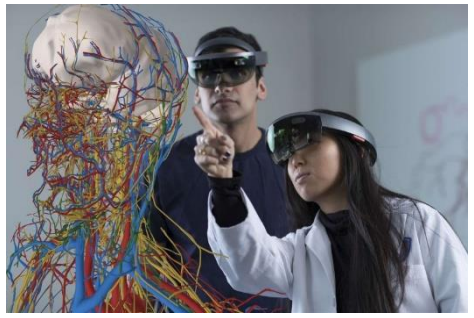
Connectivity

SpaceX Starship

NASA's curiosity rover

Spot Robot Dog

Drones



Augmented/Virtual Reality

साईन्स पढेर के बन्नी?

Hardware meets Software

"Applications (Apps) "

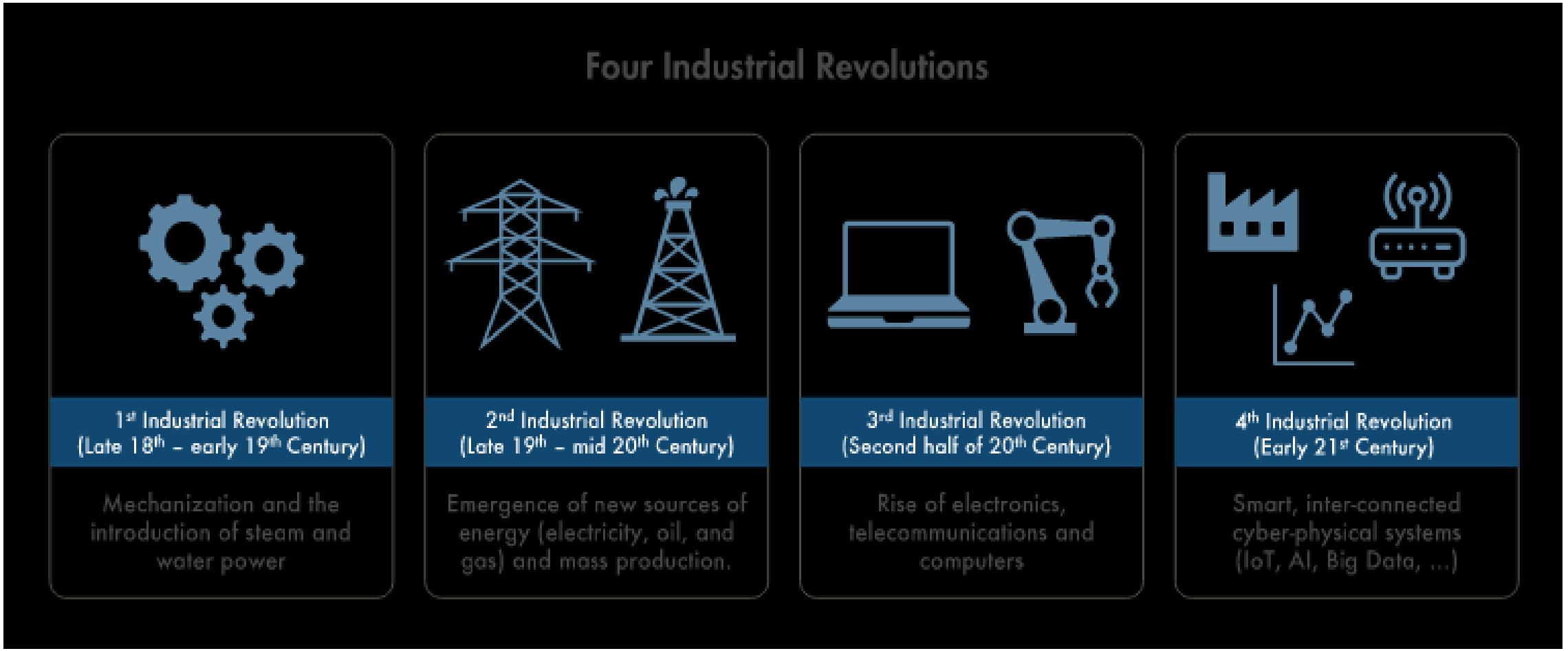
CARTOON
NETWORK
R

Programming languages

Moving towards …..

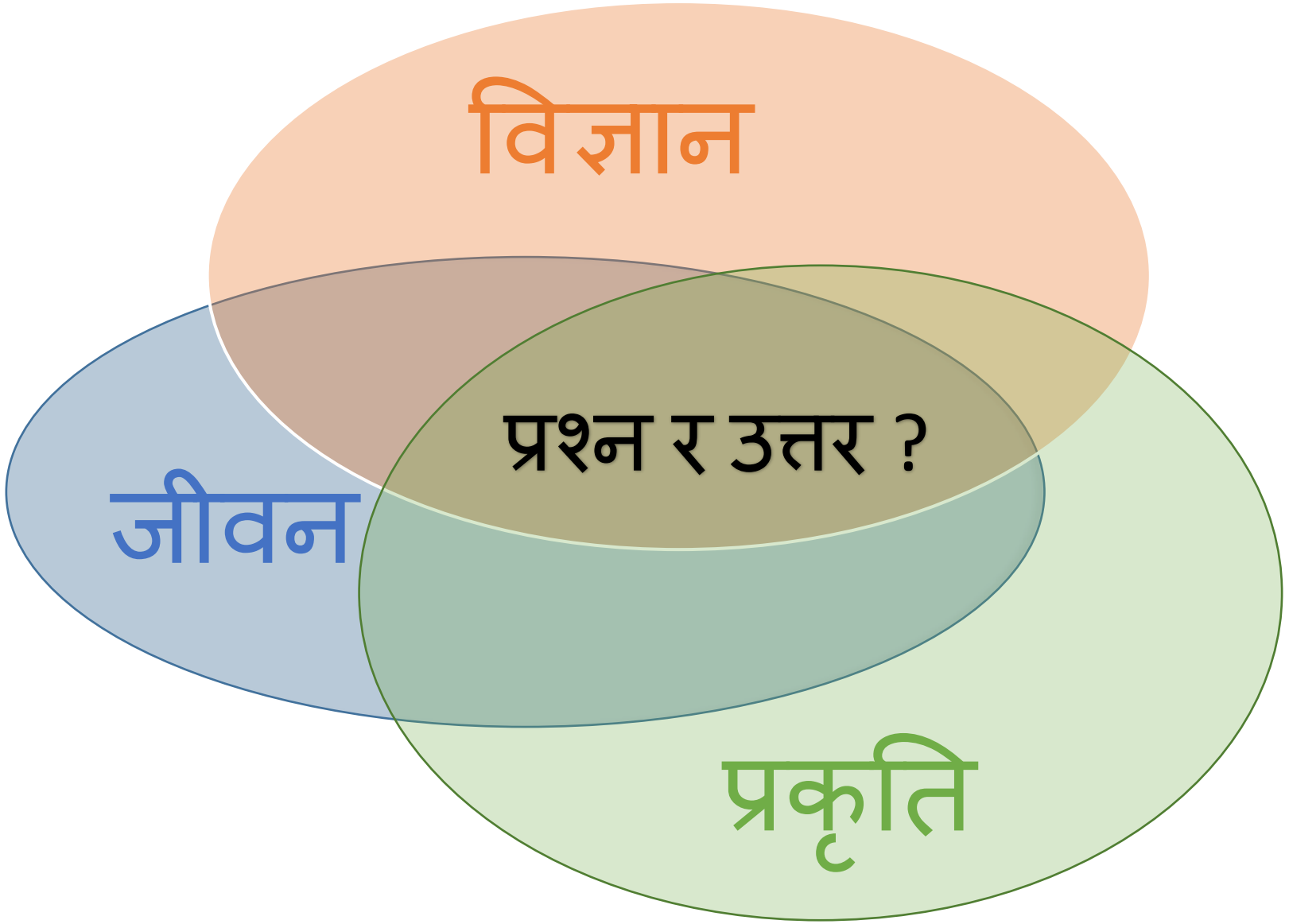
Towards a “smart”
and “sustainable” world

Where are we now? Industry 4.0



Understanding Science and Research

"training a research-oriented mindset"



के?

किन ?

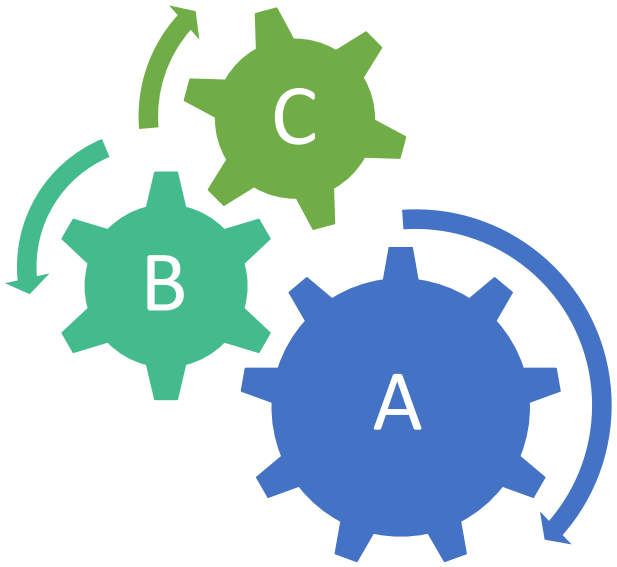
कसरी ?

प्रेरणा र उत्प्रेरणा

(Motivation and Incentives)

I CAN
'T

Interdisciplinary Thinking



Problem solving

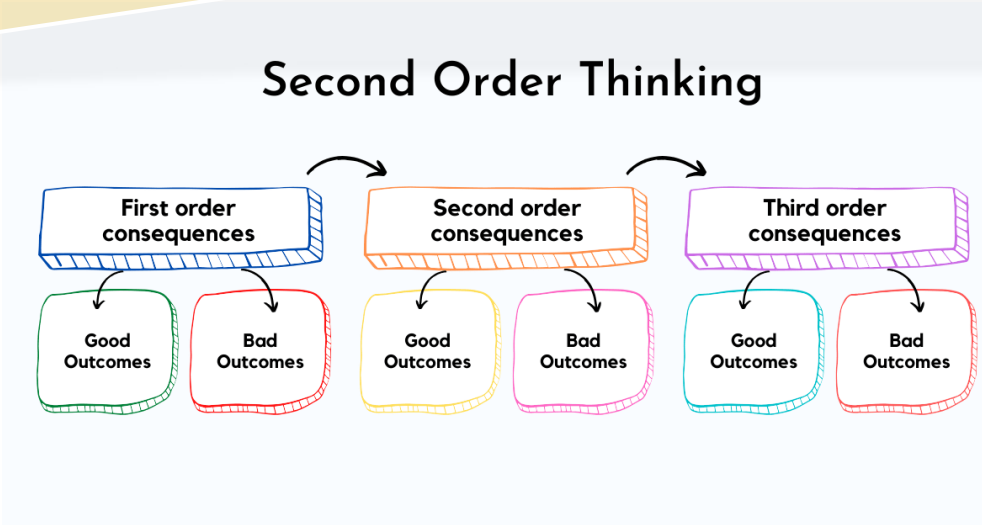
Creating a product

"bring value"

Learning/training for the right set of tools

"getting skilled"

Critical Thinking
Self-reflection
Reasoning



Curiosity and Perseverance

"Keep going"

Interaction

Involvements

Innovations

Team play

"we are a part of it"

Learning when to “return back”

“accepting alternative truth”

Building
Good habits
Character
Attitude

Procrastination and habitual avoidance

Misinterpreting goals

Casual distraction

Ignoring research ethics

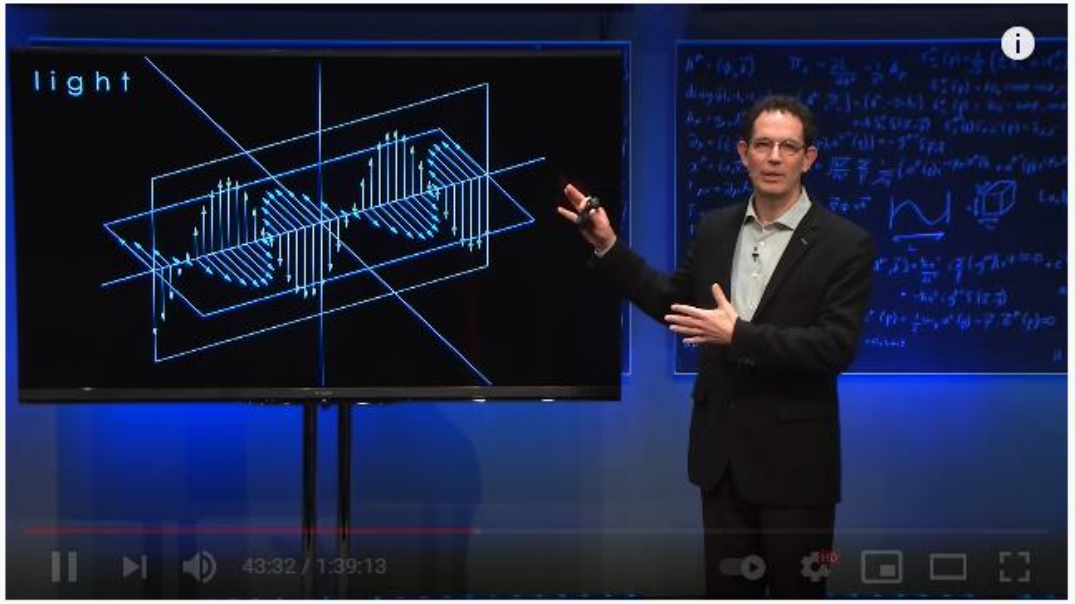
Finally …..

Take away

https://www.coursera.org/learn/learning-how-to-learn

Prioritize these:

- ✓MOOCs (Coursea, Edx)
- ✓Public Lectures
- ✓Books/Blogs/Articles
- ✓Podcasts
- ✓Learning to code (and plant vegetables ☺)
  - ✓How about trying to make your first webpage/app? ☺ ☺
  - ✓Mini-projects (DIY: Do It Yourself!)



Neil Turok Public Lecture: The Astonishing Simplicity of Everything

पहिलो प्रयासले
जब लडाउँछ दुई पटक
अनी मात्रै बन्दो रहेछ मान्छे
शान्त मनको ।
तब,
सफलताको लोभ मेटिन्छ,र
रहन्छन् केवल सफल
प्रयासहरु।
~

Hope it was useful. Thank you ☺

Do share me your feedbacks ☺

Email here: shashir101@gmail.com