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INDIANA UNIVERSITY CIBER

CIBER Focus Interview Series
Video Annotation

"Mapping the Global Economy" with Professor Yong-Yeol Ahn

Link: https://www.youtube.com/watch?v=WU5z34jt0Rc
Length: 18:18
Production Date/Year: August 20, 2019

Keyword Topics:
Data Mining, Informatics, Labor Flow, LinkedIn

Guest Info:

Yong-Yeol (YY) Ahn is an Associate Professor at Indiana University's School of Informatics, Computing, and Engineering. He worked as a postdoctoral research associate at the Center for Complex Network Research at Northeastern University and as a visiting researcher at the Center for Cancer Systems Biology at Dana-Farber Cancer Institute after earning his PhD in Statistical Physics from KAIST in 2008. His research spans Network Science, Data Science, and Computational Social Science. He develops mathematical & computational models and applies them to investigate questions from various domains such as sociology, health, economics, and culture. He is a recipient of several awards including Microsoft Research Faculty Fellowship and LinkedIn Economic Graph Challenge.

Video Summary/Synopsis:

A small team of researchers at Indiana University has created the first global map of labor flow in collaboration with the world's largest professional social network, LinkedIn. According to the researchers, the study's result represents a powerful tool for understanding the flow of people between industries and regions in the U.S. and beyond. It could also help policymakers better understand how to address critical skill gaps in the labor market or connect workers with new opportunities in nearby communities.

The study showed some unexpected connections between economic sectors, such as the strong ties between credit card and airline industries. It also identified growing industries during the study period from 2010 to 2014, including the pharmaceutical and oil and gas industries — with in-demand skills such as team management and project management — as well as declining industries, such as retail and telecommunications.

Introduction of Guest - :45

Professor Yong-Yeol (YY) Ahn's recent study - 1:50

Surprises in Professor YY's Research - 6:15

Clusters of businesses - 7:00

- More movement within business clusters rather than across
- Movement between credit card companies and airlines/travel industry

Labor flow and the structure of the global economy - 8:50

What would insights look like that would benefit companies? - 13:30

New study on lower-skilled workforce - 15:50

Standards:

Global Economics

- **GE-3.1**
  - Define labor productivity and explain the basic factors which affect productivity
- **GE-7.1**
  - Analyze U.S. and foreign economies to forecast how trade may affect job opportunities and income potential
- **GE-7.2**
  - Identify and assess personal interests, abilities, life goals, and possible career choices
- **GE-7.4**
  - Evaluate the impact of sociological, economic and technological changes on future careers

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Economics

- **E.1.1**
  - Define and identify each of the productive resources (natural, human, capital) and explain why each is necessary for the production of goods and services.
- **E.2.8**
  - Illustrate how physical and human capital investment raise productivity and future standards of living.

Essential Questions:

- What can large data sets tell you about an industry's workforce?
- Why is mining large data sets beneficial for future economic decisions?
- What other data sets can be compiled and used in ways that benefit the economy?

Depth of Knowledge

- Students will be able to describe how large data sets can be used to benefit industries.
- Students will be able to explain trends in movements of workforce within and between clusters.
- Students will be able to create new ideas of data that can be used to benefit businesses and economic decisions.
- Students will be able to analyze and evaluate the "cluster" organization system created by Prof YY.

Additional Links & Related Information

- Kelley School of Business - Institute for International Business
  - https://kelley.iu.edu/faculty-research/centers-institutes/international-business/index.cshtml
- Yong Yeol Ahn
  - https://luddy.indiana.edu/contact/profile/?Yong~Yeol_Ahn
  - Research Page
    - http://yongyeol.com/pub/