Data. Analytics. Dissemination.

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Platograph - D.A.D. - Q2 Ecosystem

Formosat-5

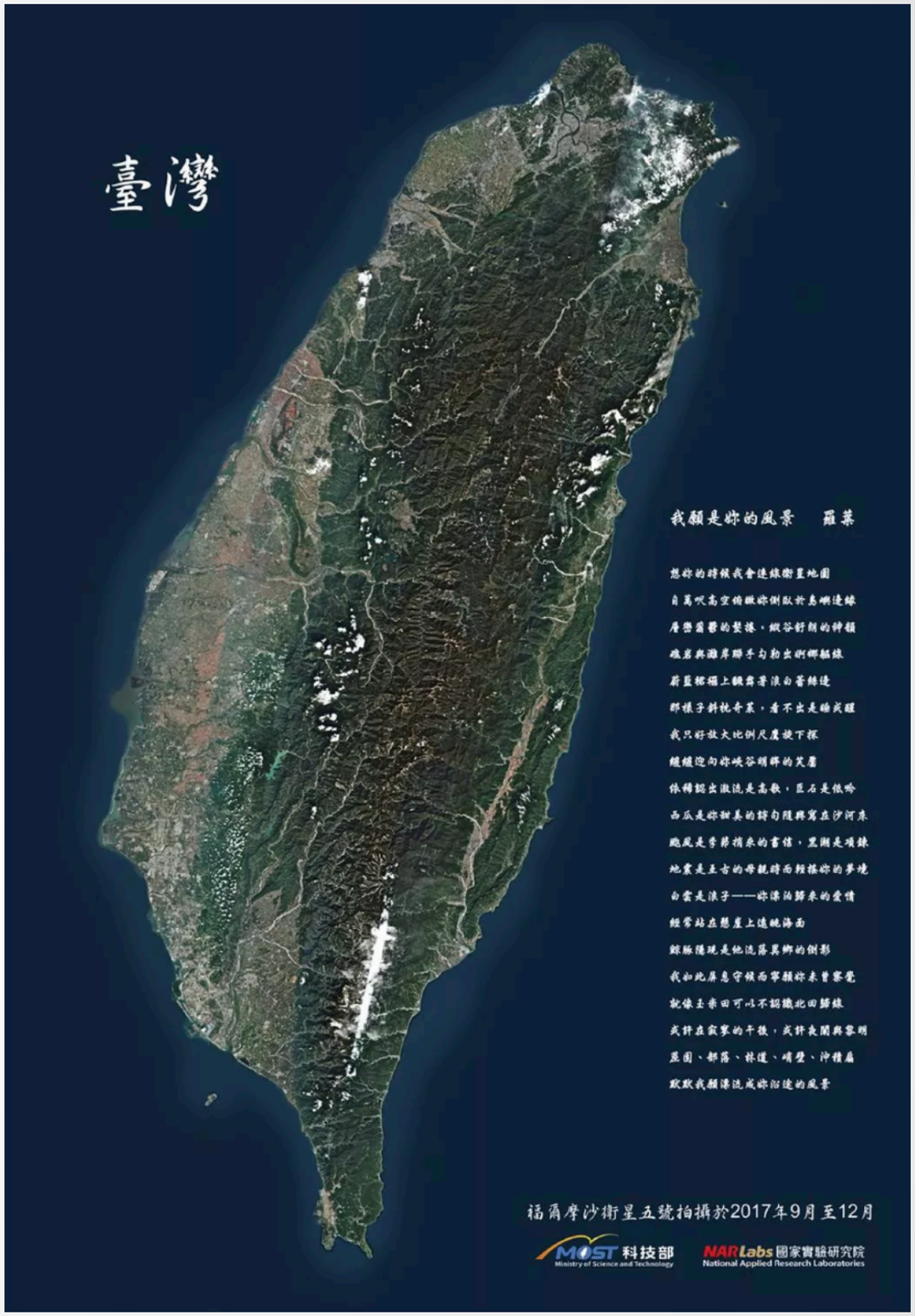
- Remote Sensing
- Vegetation
- Sea Level
- Climate Control
- Sea Surface Temperature

A Taiwanese Satellite

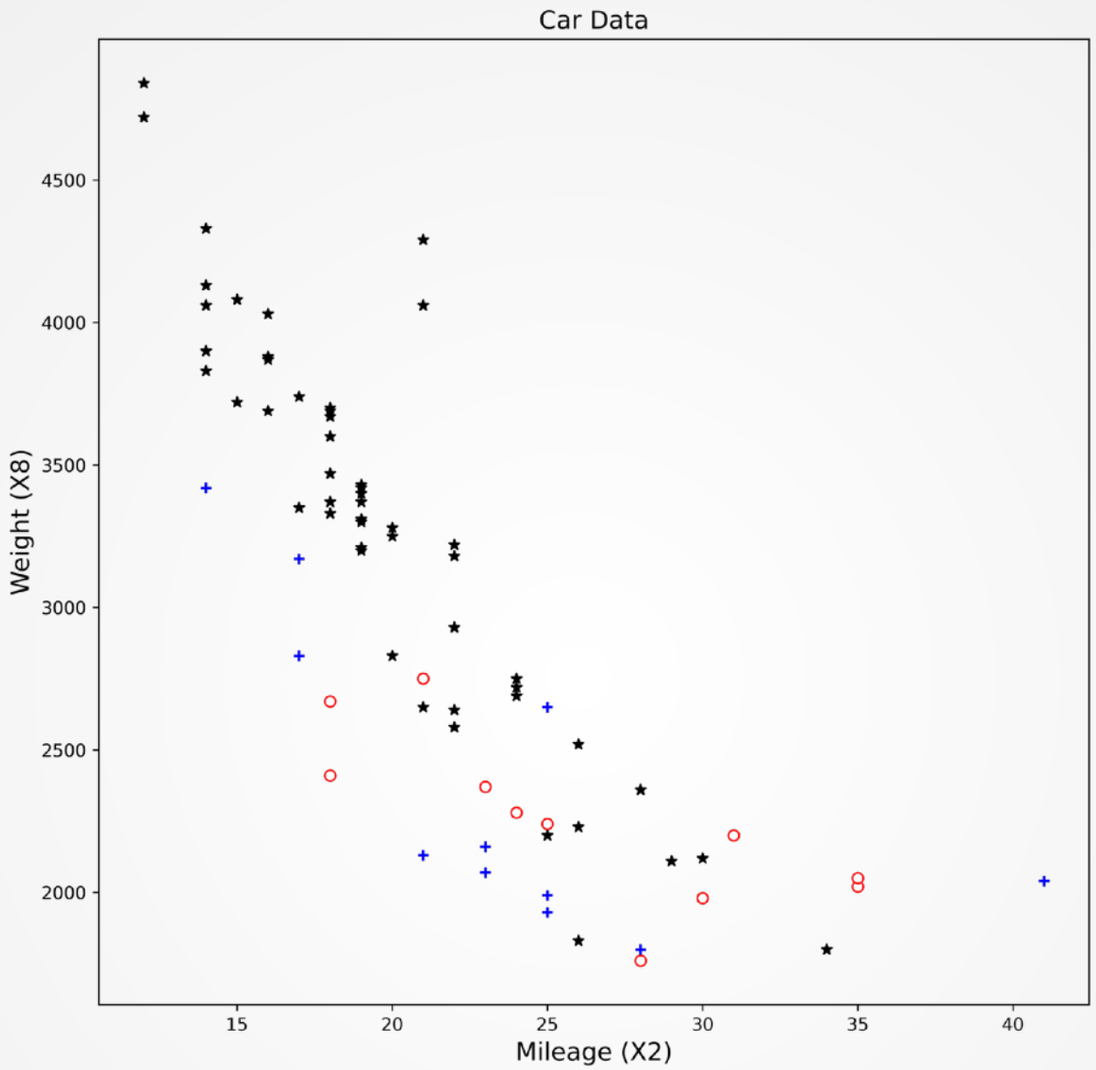
Formosat-5 Highlights Space R&D Capabilities

Esther Tseng / photos NSOP / tr. by Scott Williams

April 2018



Carbon Emissions



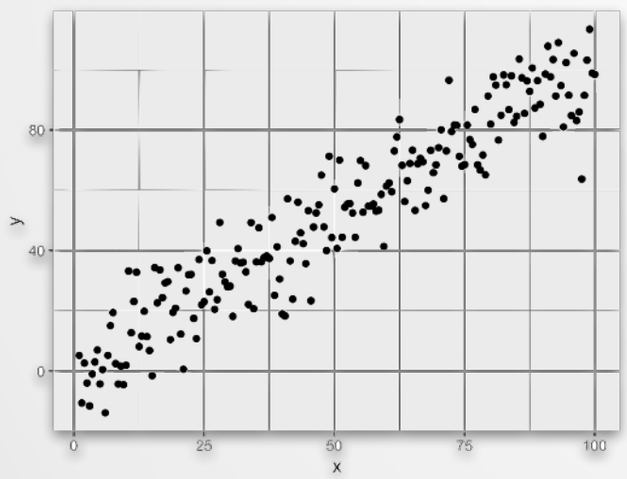
Mileage (X_2) vs. weight (X_8) of U.S. (★), European (+) and Japanese (∘) cars.

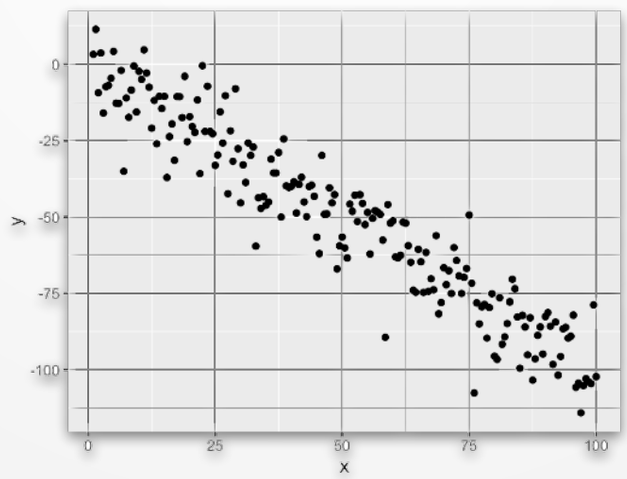
GPT based ANOVA

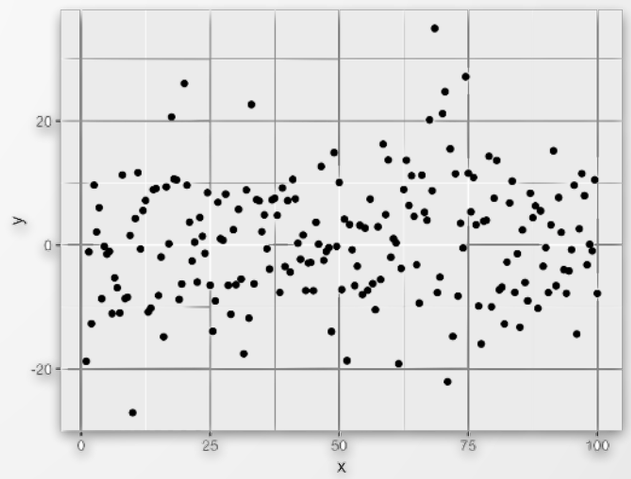
- Scatterplots with point clouds that are ”upward-sloping” are showing variables with positive covariance.

- Scatterplots with ”downward-sloping” structure have negative covariance.

- Scatterplots with „no sloping“ shape indicate zero covariance.







Created with Chat GPT on 20230119:
an upwards sloping scatterplot with 100 data points

Example: car data set

Correlation between mileage (X_2) and weight (X_8)

$$n = 74,\ r_{X_2X_8} = -0.823$$

$$H_0 : \rho = 0 \quad H_1 : \rho \neq 0$$

$$w = \frac{1}{2}\log\left(\frac{1 + r_{X_2X_8}}{1 - r_{X_2X_8}}\right) = -1.166 \quad , \quad z = \frac{-1.166 - 0}{\sqrt{\frac{1}{71}}} = -9.825$$

$$H_0 : \rho = -0.75$$

$$z = \frac{-1.166 - (-0.973)}{\sqrt{\frac{1}{71}}} = -1.627.$$

ANOVA

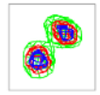
- Is the E - Porsche a good deal?

ANOVA Table

SS	df	MS	F-stat	p-value
SS(explained)	$p-1$	$\frac{ss(\text{explained})}{p-1}$	$\frac{ss(\text{explained})/(p-1)}{MSE}$	p-value
SS(full)	$n-p$	$\frac{ss(\text{full})}{n-p} = MSE$		
SS(reduced)	$n-1$			

$F \sim F_{p-1,n-p}$

Test: reject H_0 if $F > F_{1-\alpha;p-1,n-p}$, or if p-value$< \alpha$

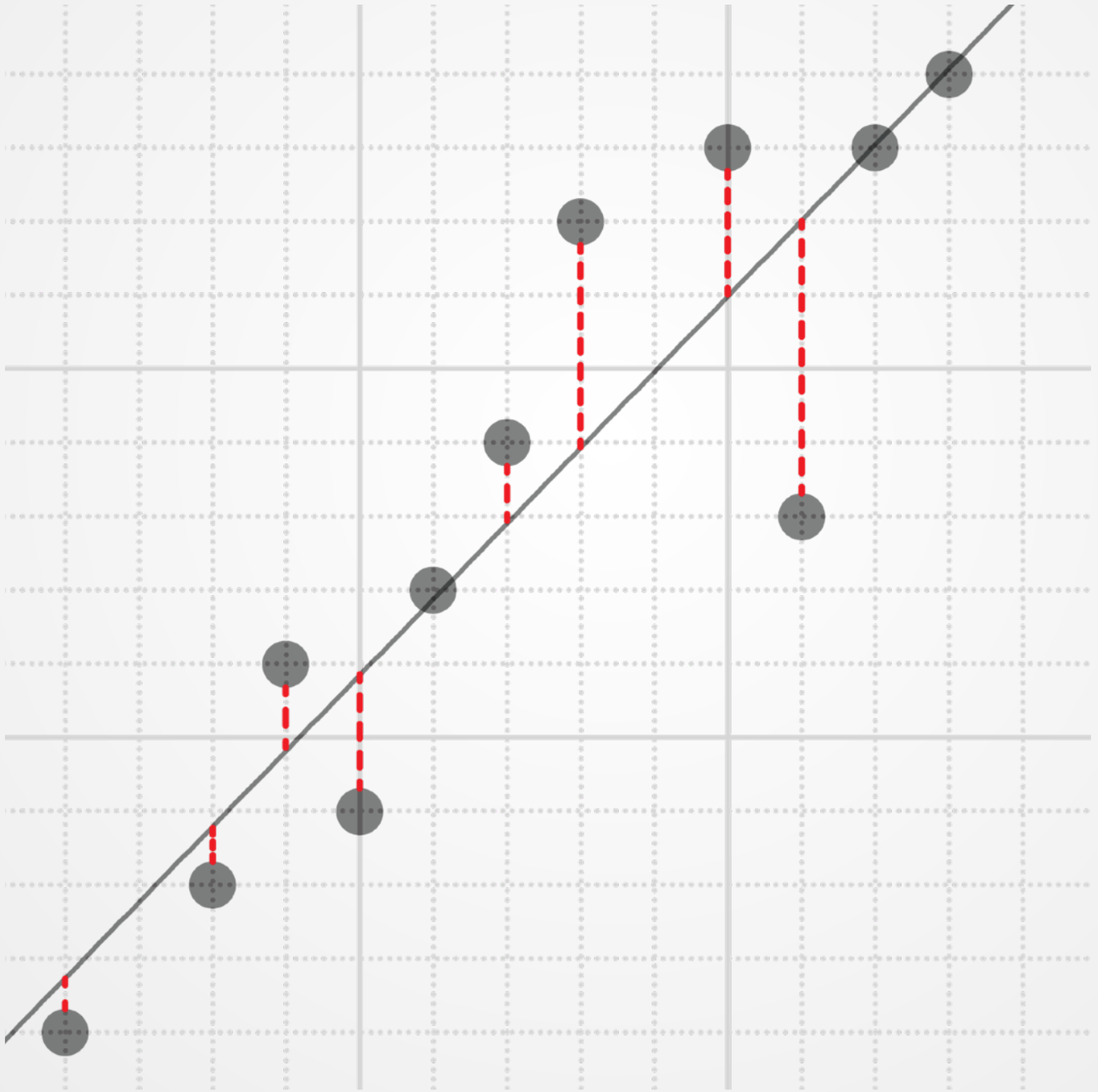


Outline

1. Motivation ✓
2. ANOVA & Remote Sensing
3. D. A. D.

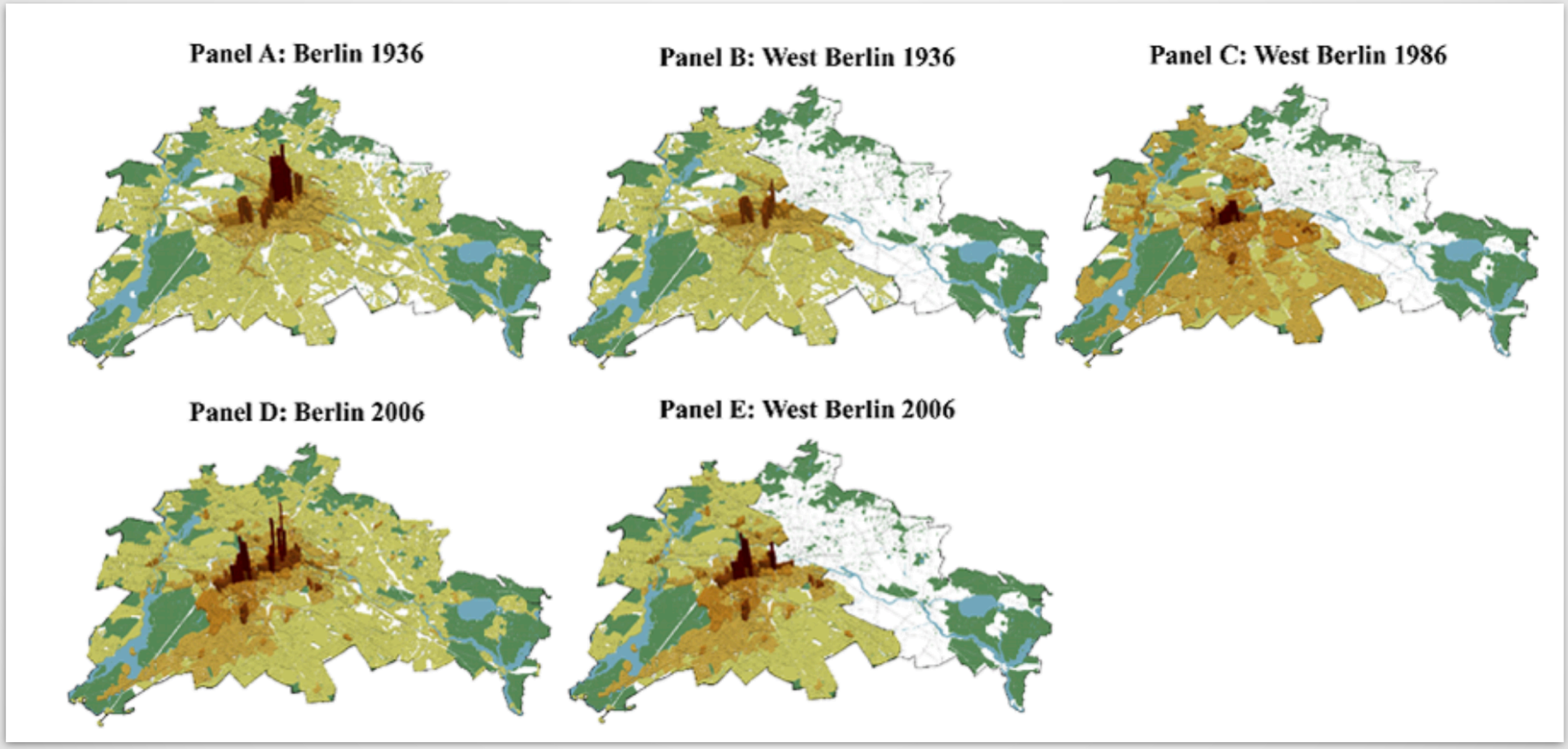
One ANOVA slide only !

- Sum the (red dashed lines)^2, compare with a constant



Spatial Monitoring

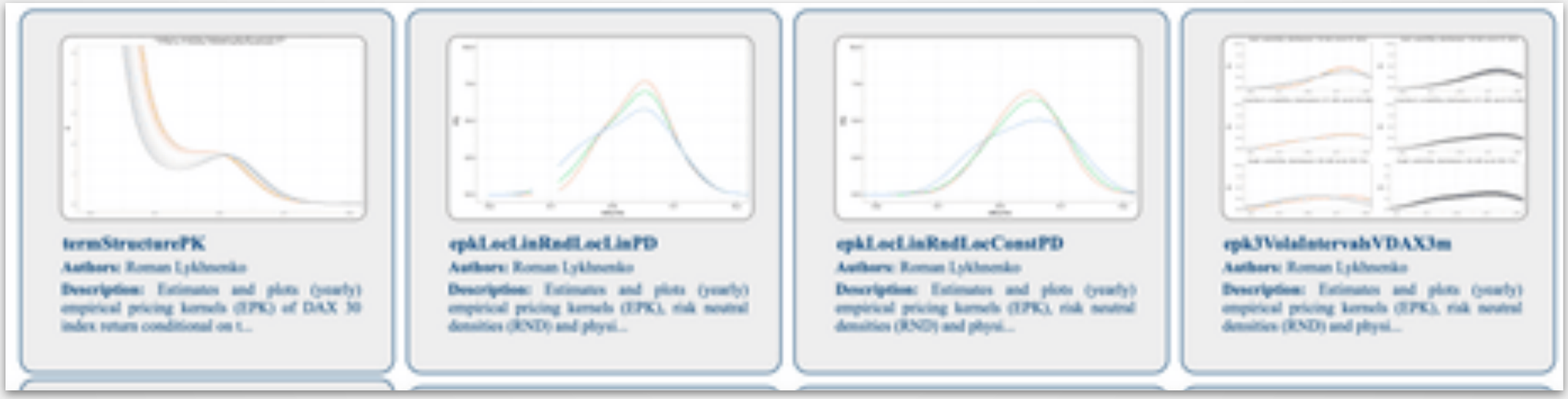
- Evolution of land prices in Berlin



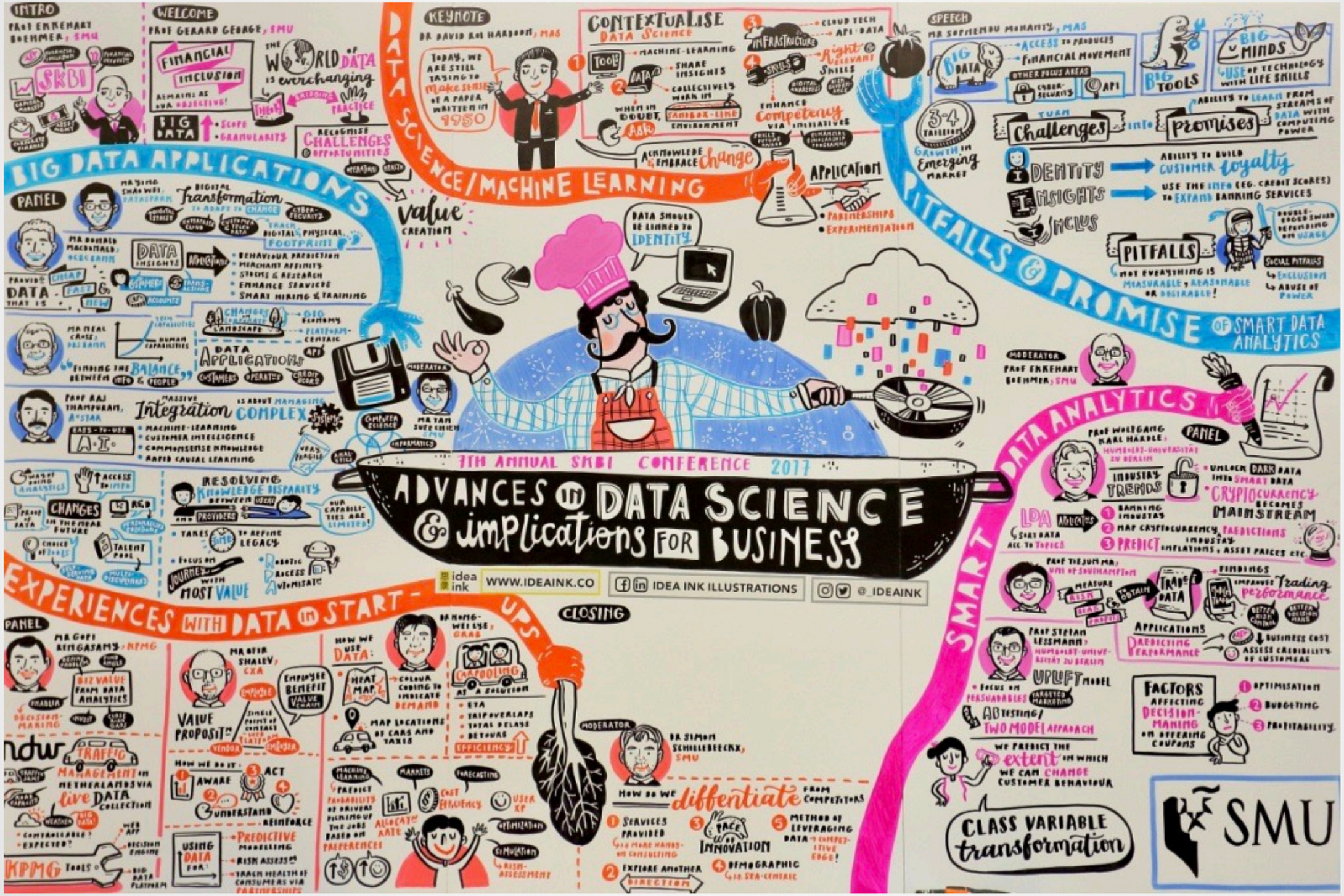
The Economics of Density: Evidence From the Berlin Wall

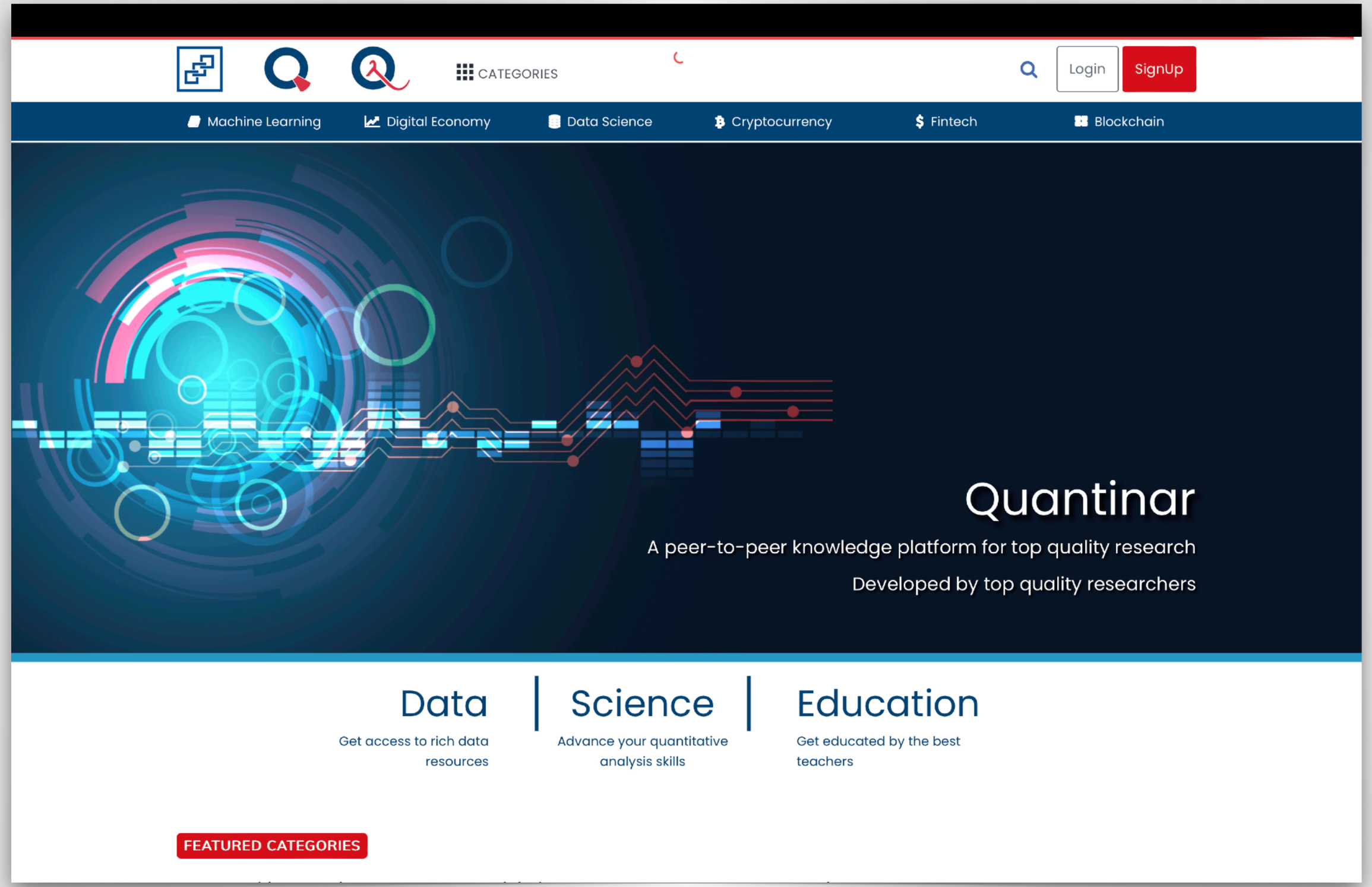
Functional Data Analytics

- Remote Sensing Data
- Spatial dependencies
- Predict future curves



Data and information are everywhere …




CATEGORIES
Login
SignUp
Machine Learning
Digital Economy
Data Science
Cryptocurrency
Fintech
Blockchain
Quantinar
A peer-to-peer knowledge platform for top quality research
Developed by top quality researchers
Data
Get access to rich data resources
Science
Advance your quantitative analysis skills
Education
Get educated by the best teachers
FEATURED CATEGORIES

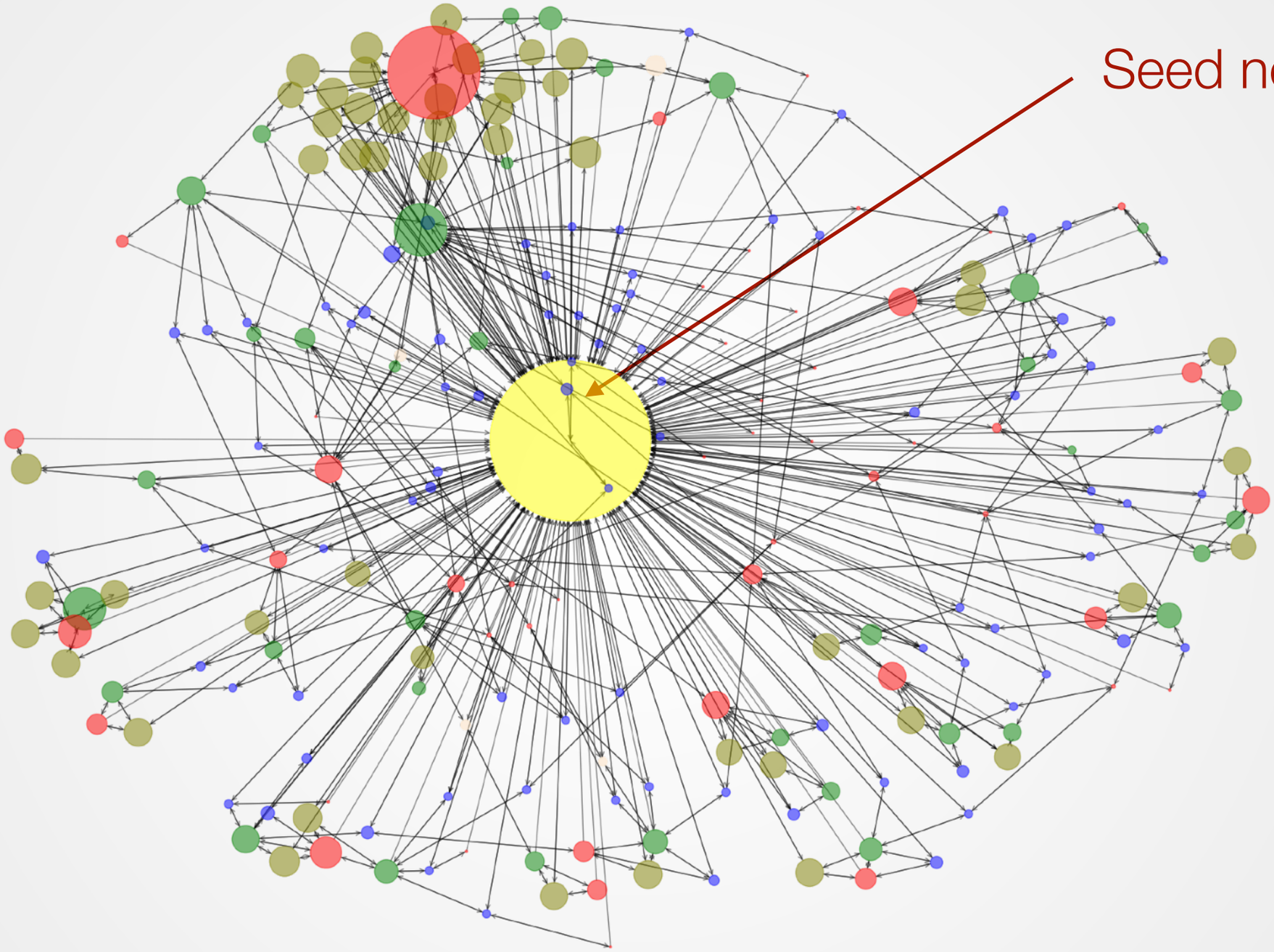
Q2 Quantinar & Quantlet Ecosystem

- Transparency and reproducibility in research and education
- Interaction with data, algorithms and community members
- Qode and data with Quantlets
- Open peer review; rewards, certificates
- P2P/TikTok Style

In my humble opinion, OCW is a good place to find class notes for some specific topics and/ or difficult problem sets to work on once you have a rudimentary understanding of the subject whereas Coursera or Edx should be used if you want to cover **the course in its entirety.**

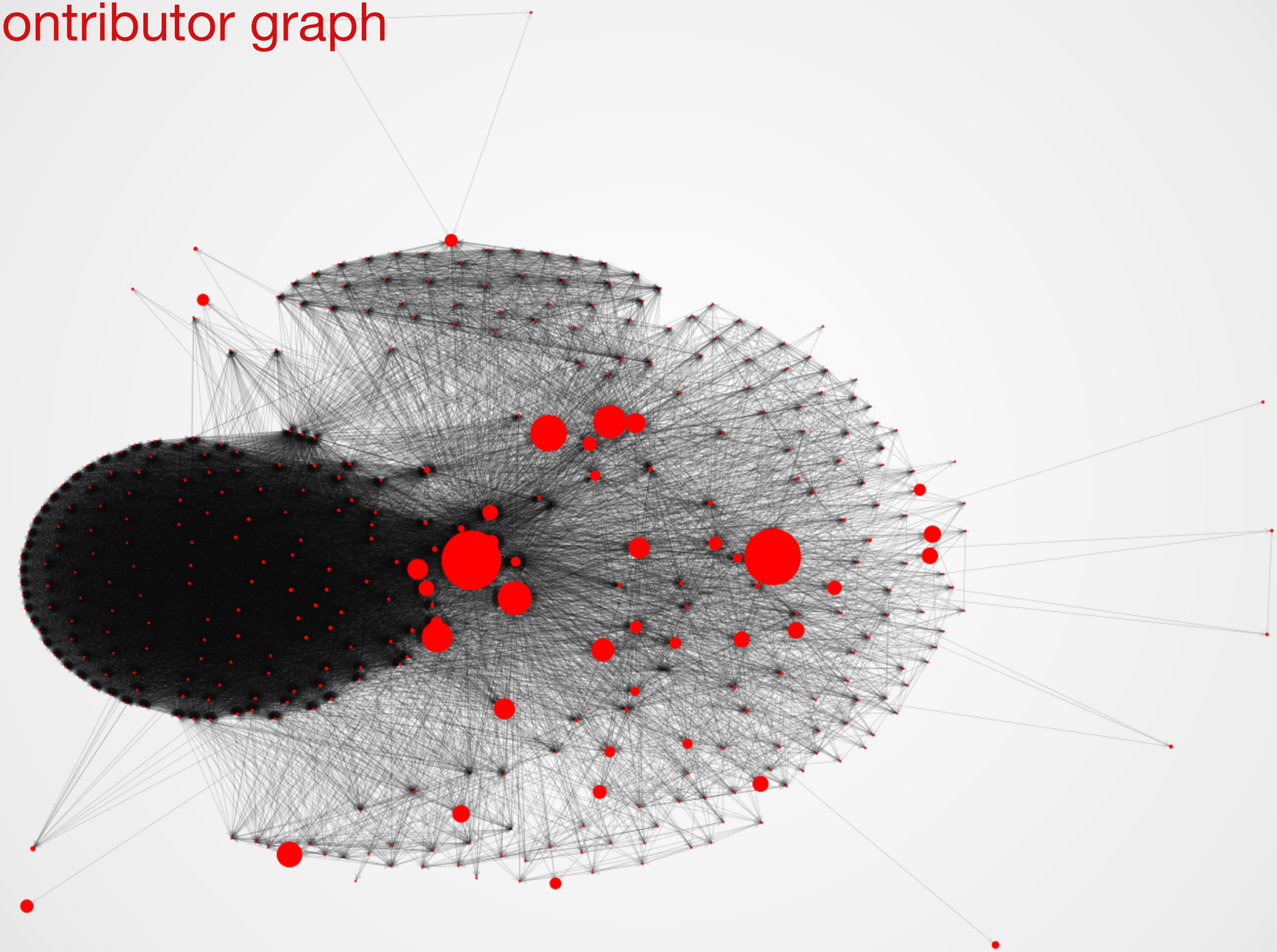
https://www.quora.com/What-is-the-difference-between-MIT-OCW-and-Coursera-or-edx

Contribution graph



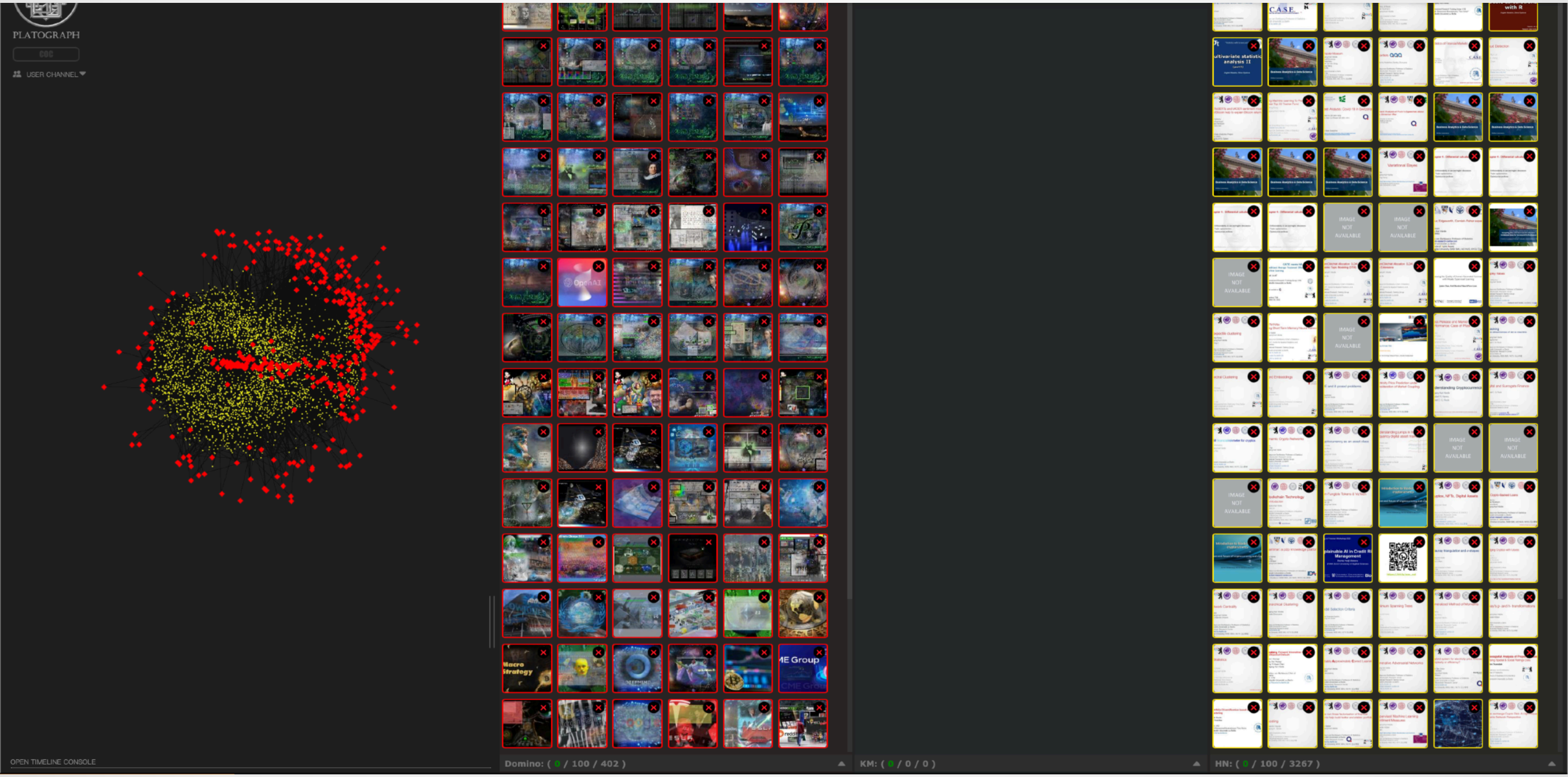
PageRank Contribution graph at 2022-10-19: **seed**, **contributor**, **course**, **courselet**, **order**, **review**

Contributor graph

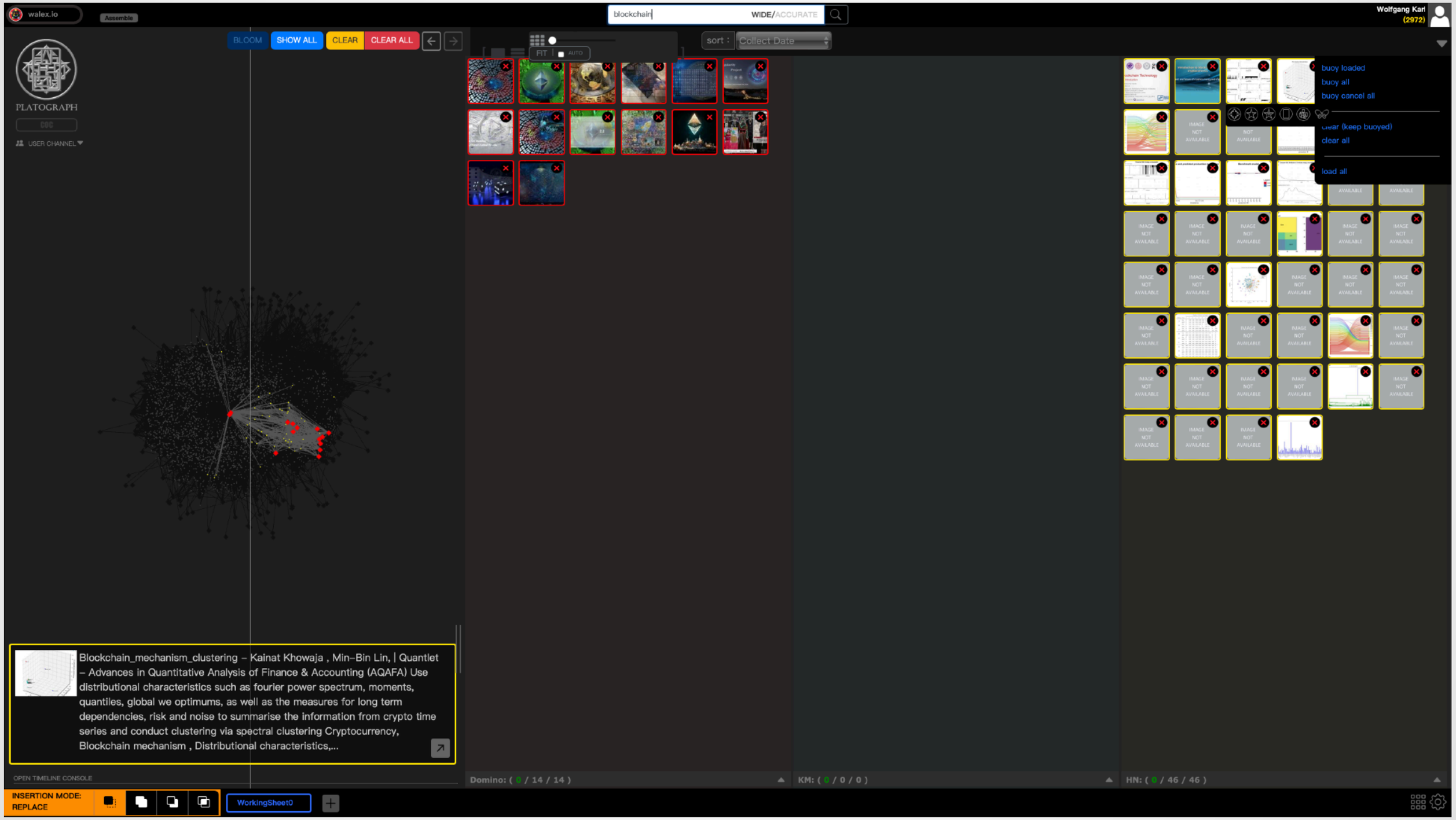


PLATOGRAPH

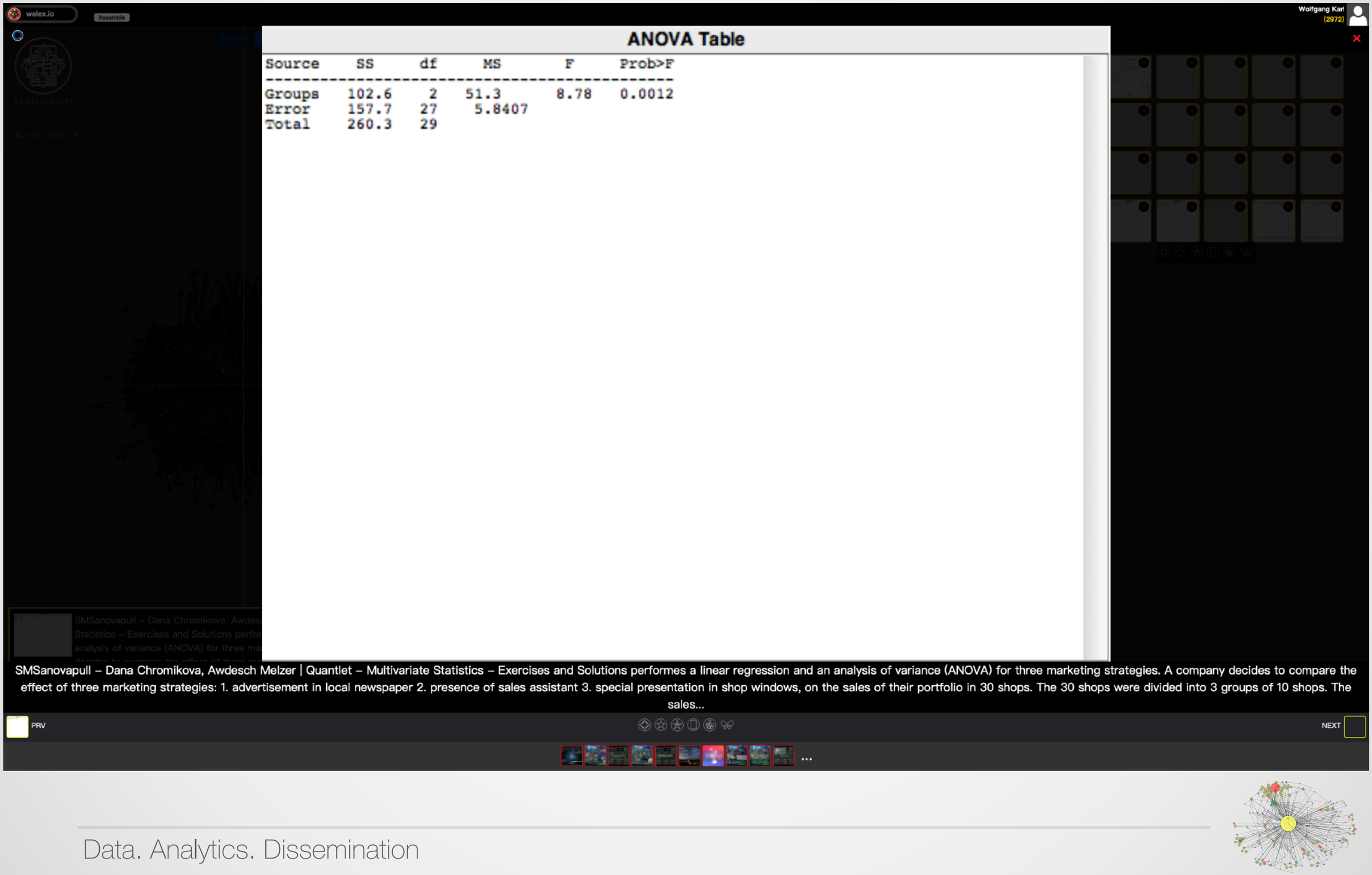
Platograph


PLATOGRAPH
USER CHANNEL
OPEN TIMELINE CONSOLE
Domino: (0 / 100 / 402)
KM: (0 / 0 / 0)
HN: (0 / 100 / 3267)

ANOVA

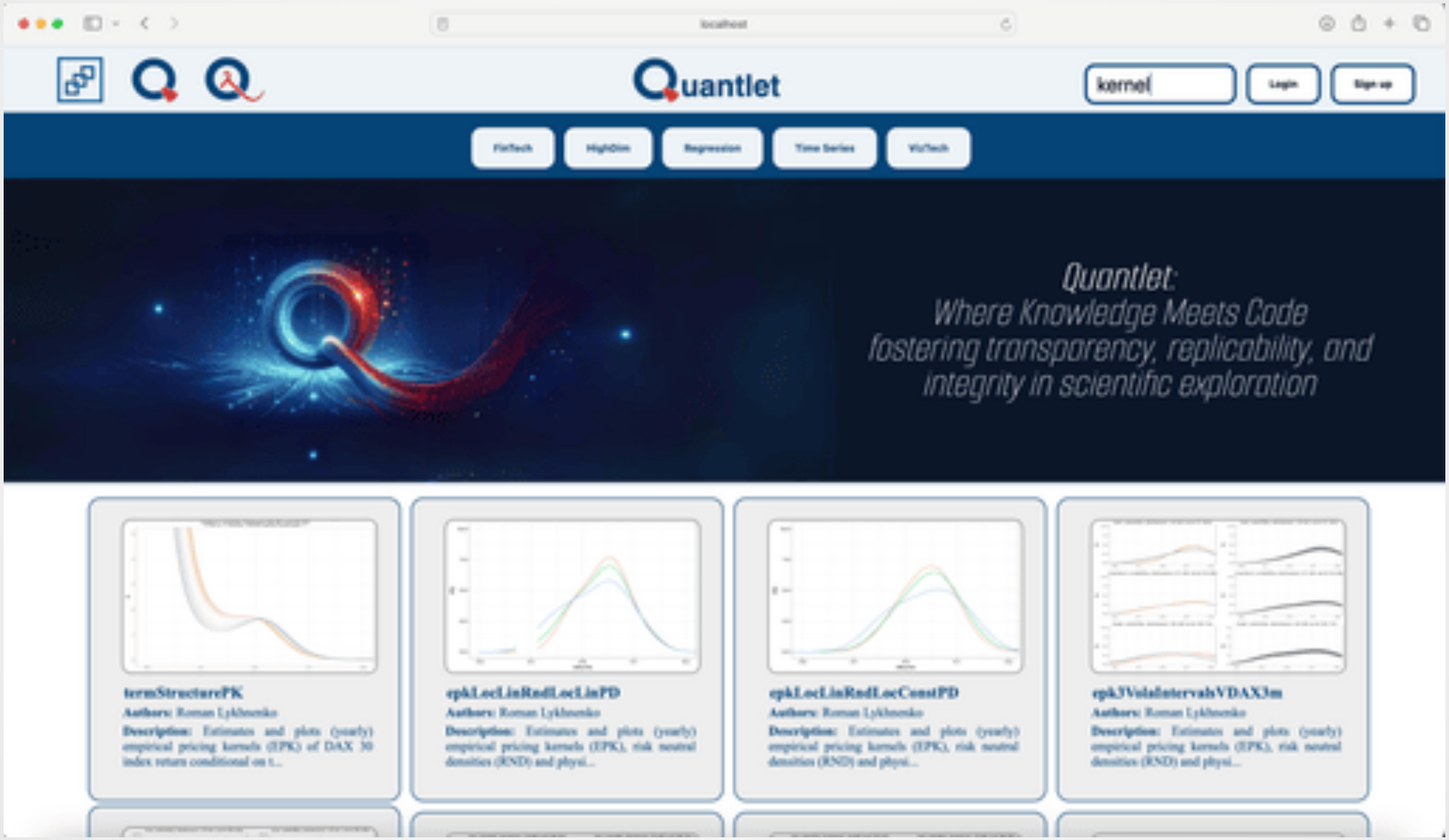

walex.io
Assemble
BLOOM
SHOW ALL
CLEAR
CLEAR ALL
PLATOGRAPH
USER CHANNEL
blockchain
WIDE/ACCURATE
sort :
Collect Date
FIT
AUTO
Wolfgang Karl
(2972)
buoy loaded
buoy all
buoy cancel all
clear (keep buoyed)
clear all
load all
Blockchain_mechanism_clustering – Kainat Khowaja , Min-Bin Lin, | Quantlet – Advances in Quantitative Analysis of Finance & Accounting (AQAFA) Use distributional characteristics such as fourier power spectrum, moments, quantiles, global we optimums, as well as the measures for long term dependencies, risk and noise to summarise the information from crypto time series and conduct clustering via spectral clustering Cryptocurrency, Blockchain mechanism , Distributional characteristics,...
OPEN TIMELINE CONSOLE
Domino: (0 / 14 / 14)
KM: (0 / 0 / 0)
HN: (0 / 46 / 46)
INSERTION MODE: REPLACE
WorkingSheet0

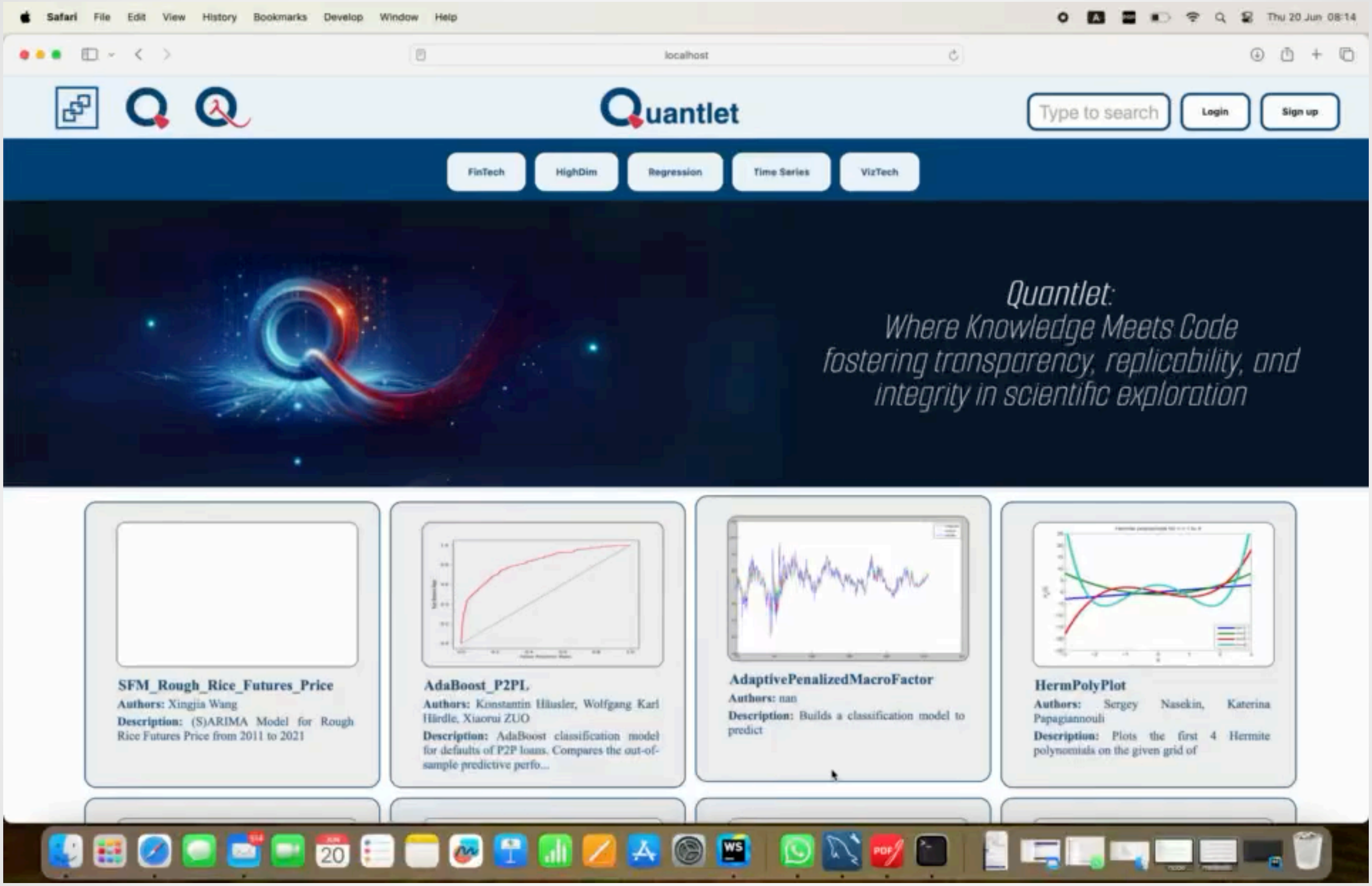
ANOVA


walex.io
Assemble
Wolfgang Karl
(2972)
ANOVA Table
Source SS df MS F Prob>F
Groups 102.6 2 51.3 8.78 0.0012
Error 157.7 27 5.8407
Total 260.3 29
SMSanovapull – Dana Chromikova, Awdesch Melzer | Quantlet – Multivariate Statistics – Exercises and Solutions performes a linear regression and an analysis of variance (ANOVA) for three marketing strategies. A company decides to compare the effect of three marketing strategies: 1. advertisement in local newspaper 2. presence of sales assistant 3. special presentation in shop windows, on the sales of their portfolio in 30 shops. The 30 shops were divided into 3 groups of 10 shops. The sales...
PRV
NEXT

quantlet.com

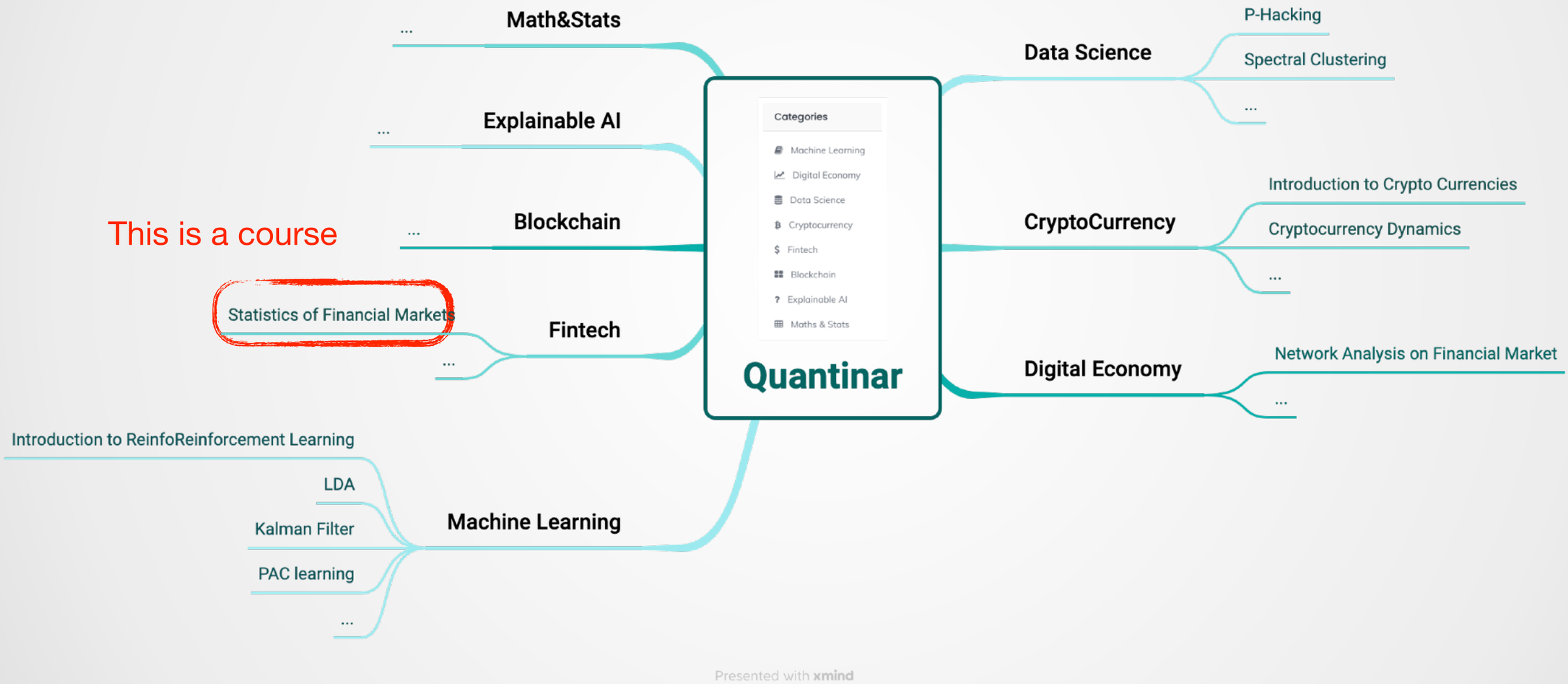
- Remote Sensing knowledge

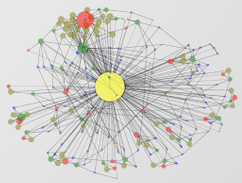



Safari File Edit View History Bookmarks Develop Window Help
Thu 20 Jun 08:14
localhost
Quantlet
Type to search
Login
Sign up
FinTech
HighDim
Regression
Time Series
VizTech
Quantlet:
Where Knowledge Meets Code
fostering transparency, replicability, and
integrity in scientific exploration
SFM_Rough_Rice_Futures_Price
Authors: Xingjia Wang
Description: (S)ARIMA Model for Rough Rice Futures Price from 2011 to 2021
AdaBoost_P2PL
Authors: Konstantin Häusler, Wolfgang Karl Härdle, Xiaorui ZUO
Description: AdaBoost classification model for defaults of P2P loans. Compares the out-of-sample predictive perfo...
AdaptivePenalizedMacroFactor
Authors: nan
Description: Builds a classification model to predict
HermPolyPlot
Authors: Sergey Nasekin, Katerina Papagiannouli
Description: Plots the first 4 Hermite polynomials on the given grid of

Recommender System

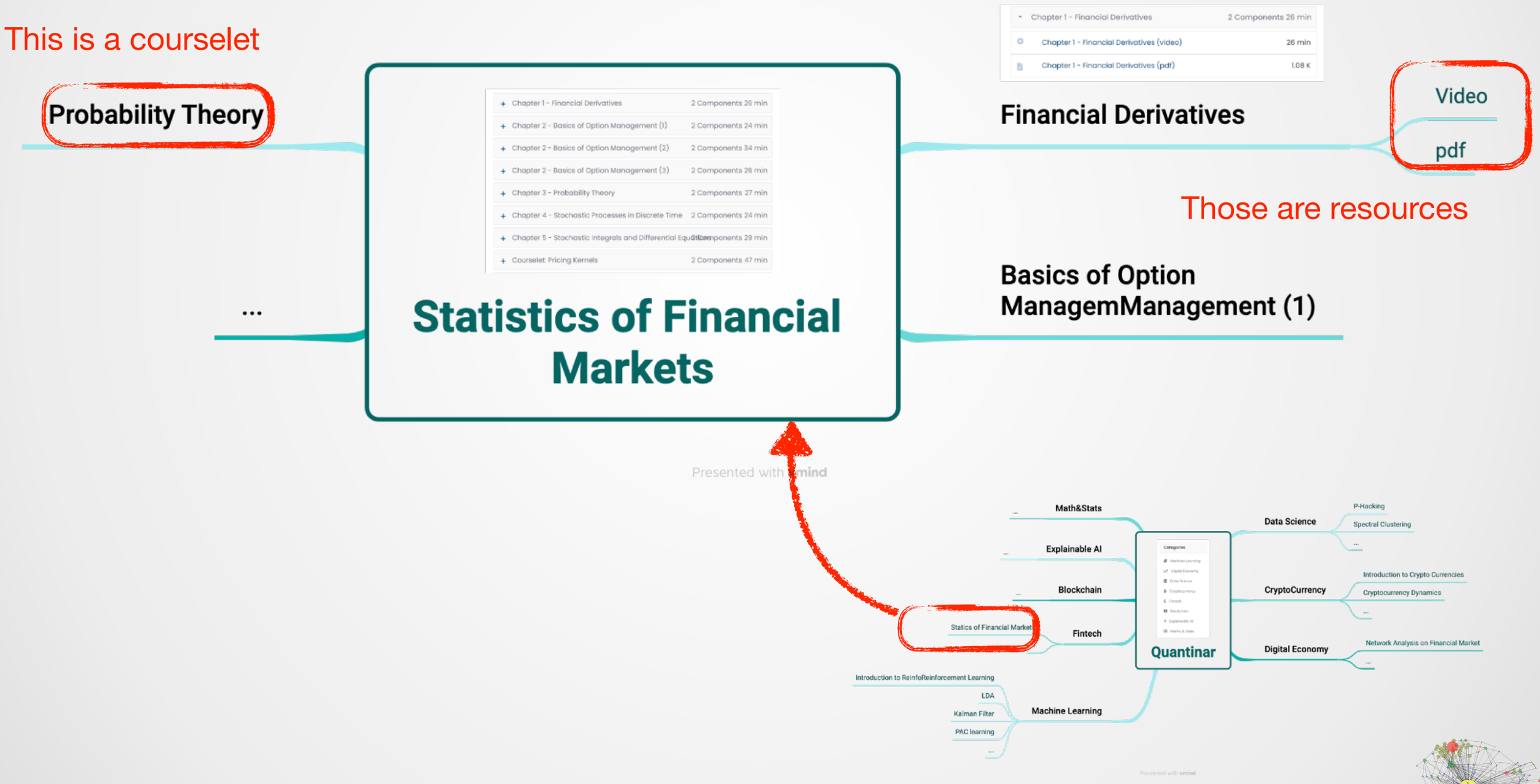
Courses





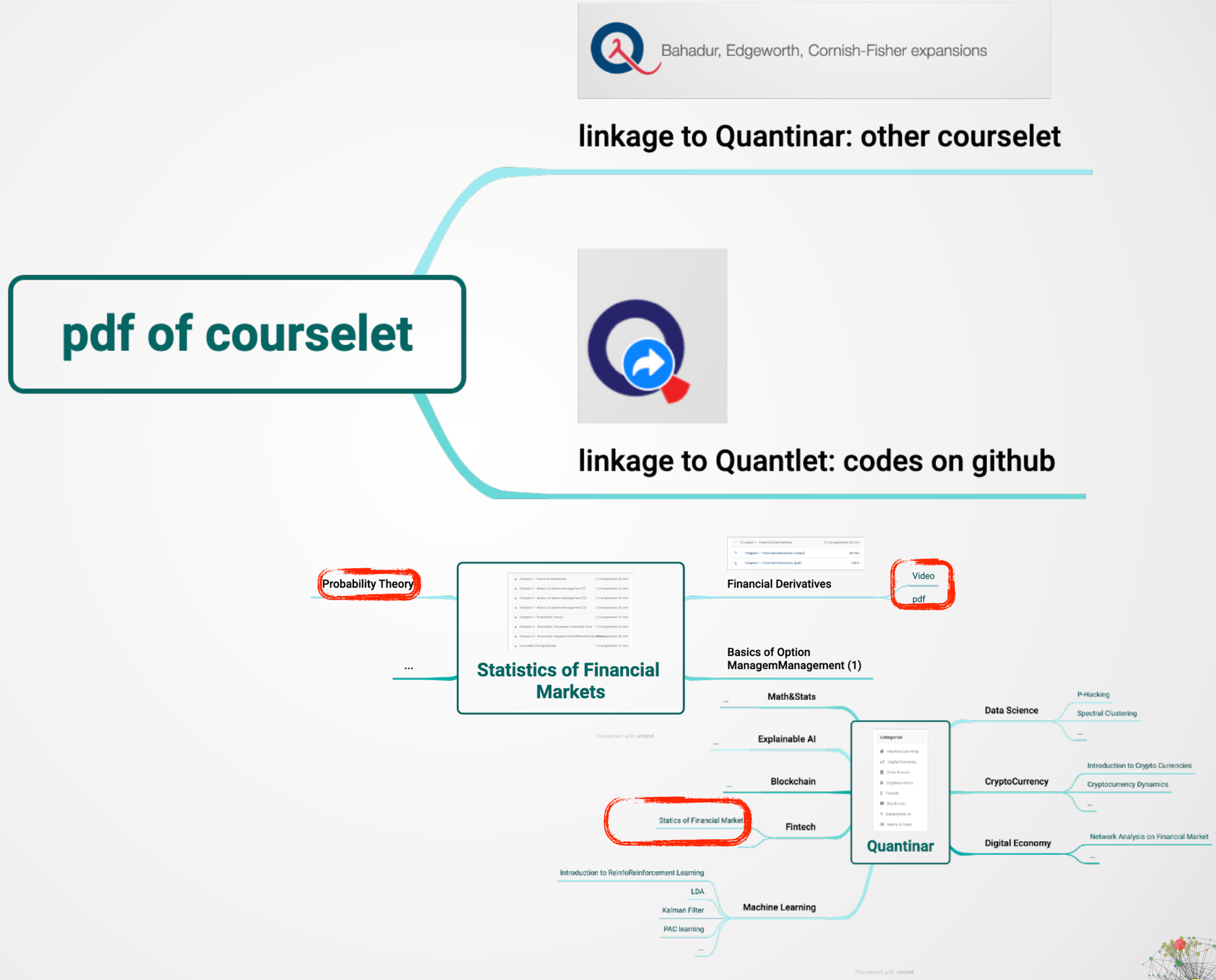
Architecture of Quantinar

Courselets



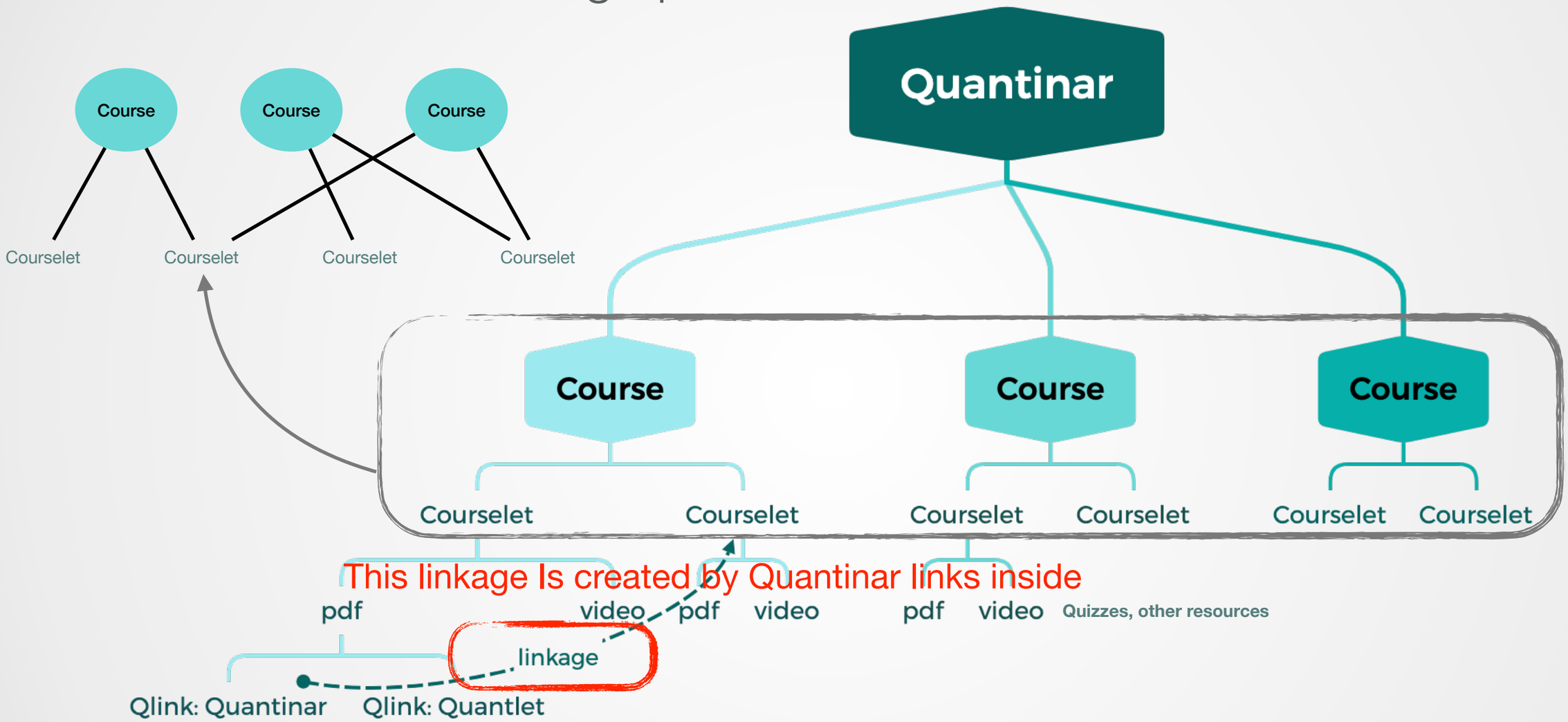
Data of Quantlet

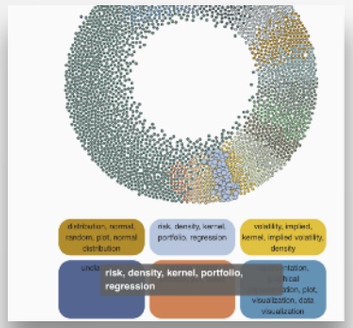
Quantlets



Graph Data Structure

- Then there comes a graph!



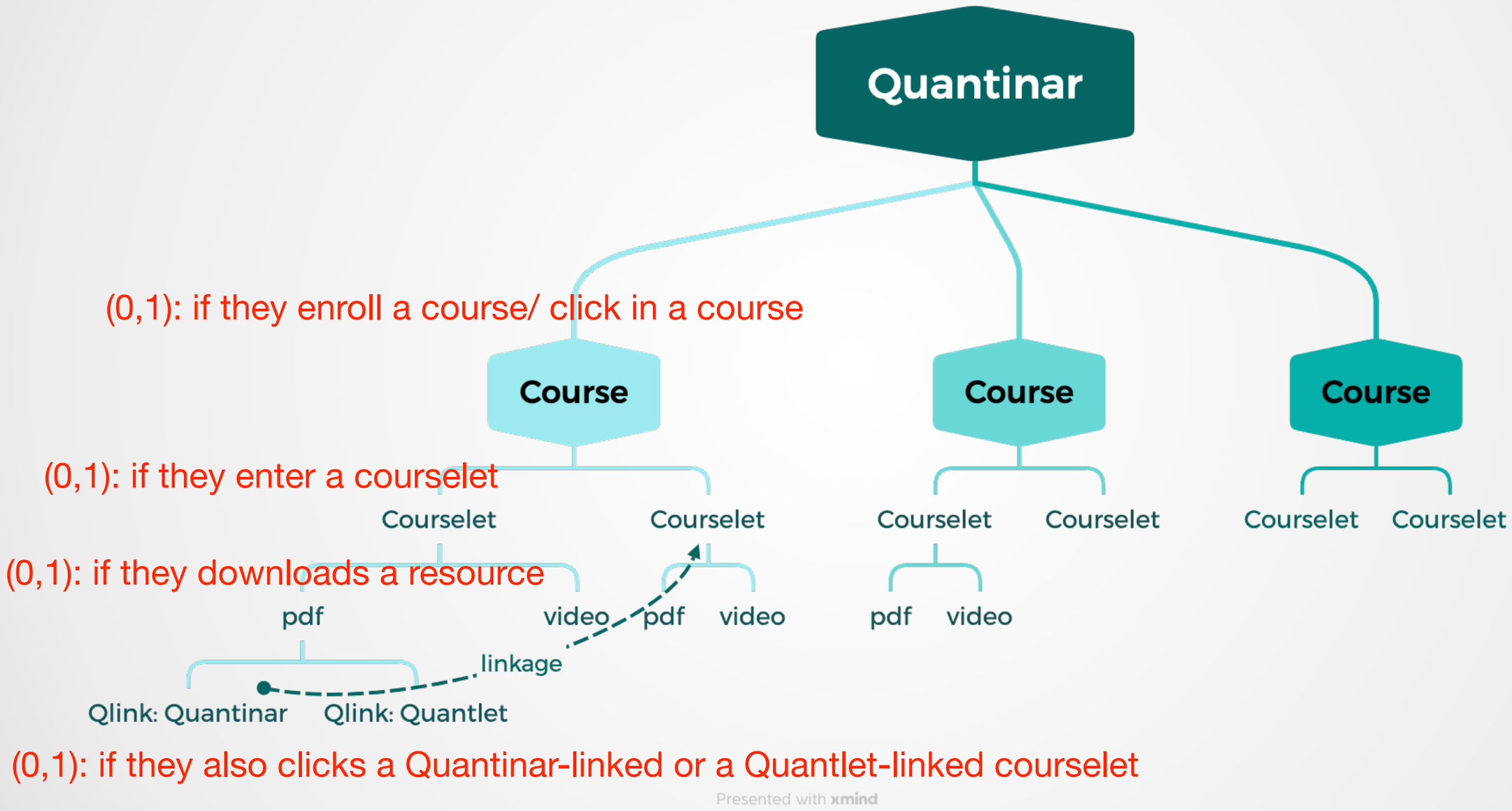


Presented with xmind

Quantlet also creates linkage

Student's Behavior

- 0: not click; 1: click



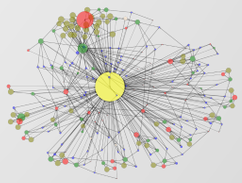
(0,1): if they enroll a course/ click in a course

(0,1): if they enter a courselet

(0,1): if they downloads a resource

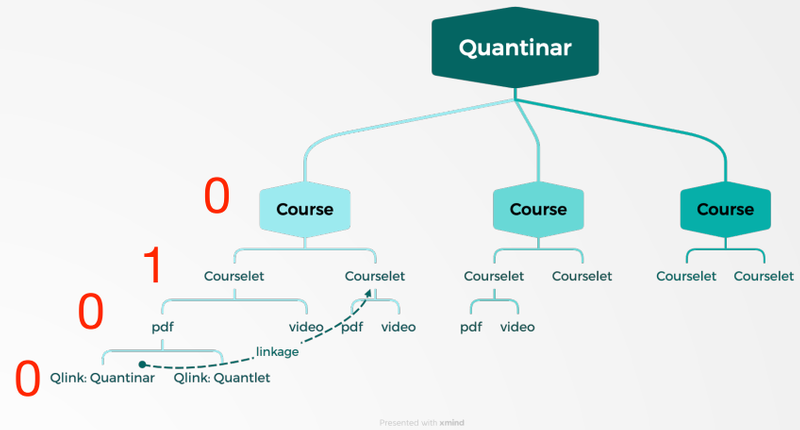
(0,1): if they also clicks a Quantinar-linked or a Quantlet-linked courselet

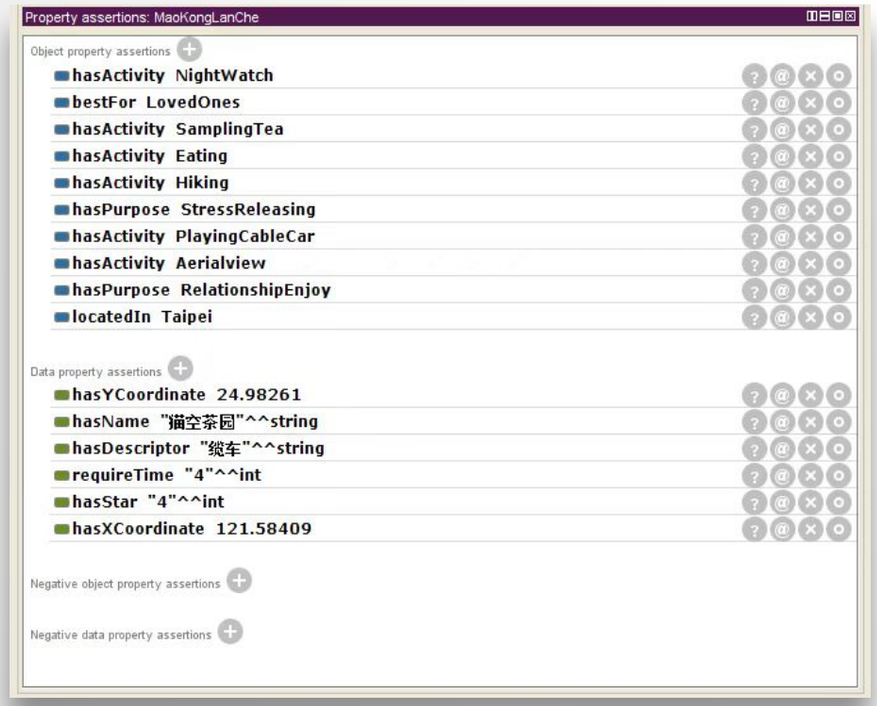
Presented with xmind

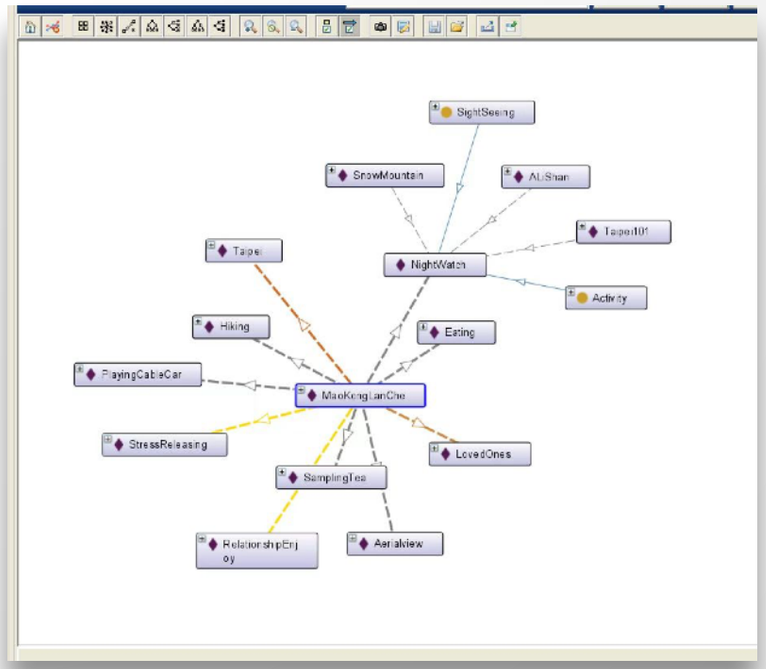


Constructing a Graph: OWL

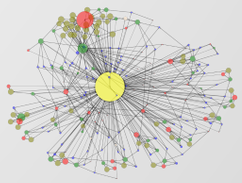
- Ontologies: Courselets
- Relationship
  - Belong to one same course
  - Quantinar link related
  - Quantlet link related
- Properties: (0,1) - clicked or not; other info…







Those are owl constructions of our previous work on Taiwan Tourism Recommendation



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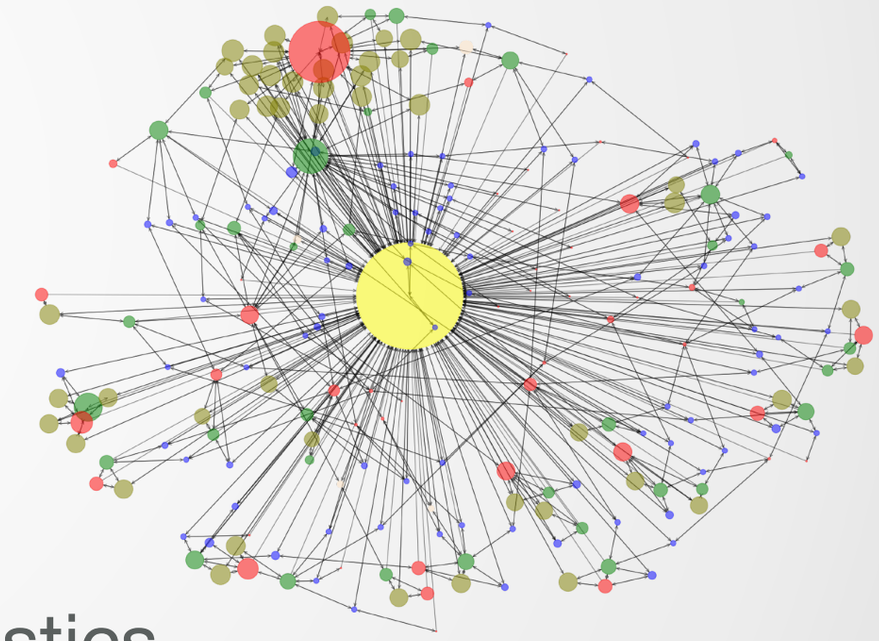

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