Konsep
Sains Informasi Geografis
Geographical Information Science (GISc)

Dr. Eko Budiyanto, M.Si.

Geography Education (S2), Social Science and Law Faculty, State University of Surabaya

GISc

Geographical Information Science

The scientific study of the **methods** and **techniques** used to research, process, and analyze geographic or spatial data.

https://onlinedegrees.kent.edu/blog/post/gisc-gis-difference

GISc

Geographical Information Science

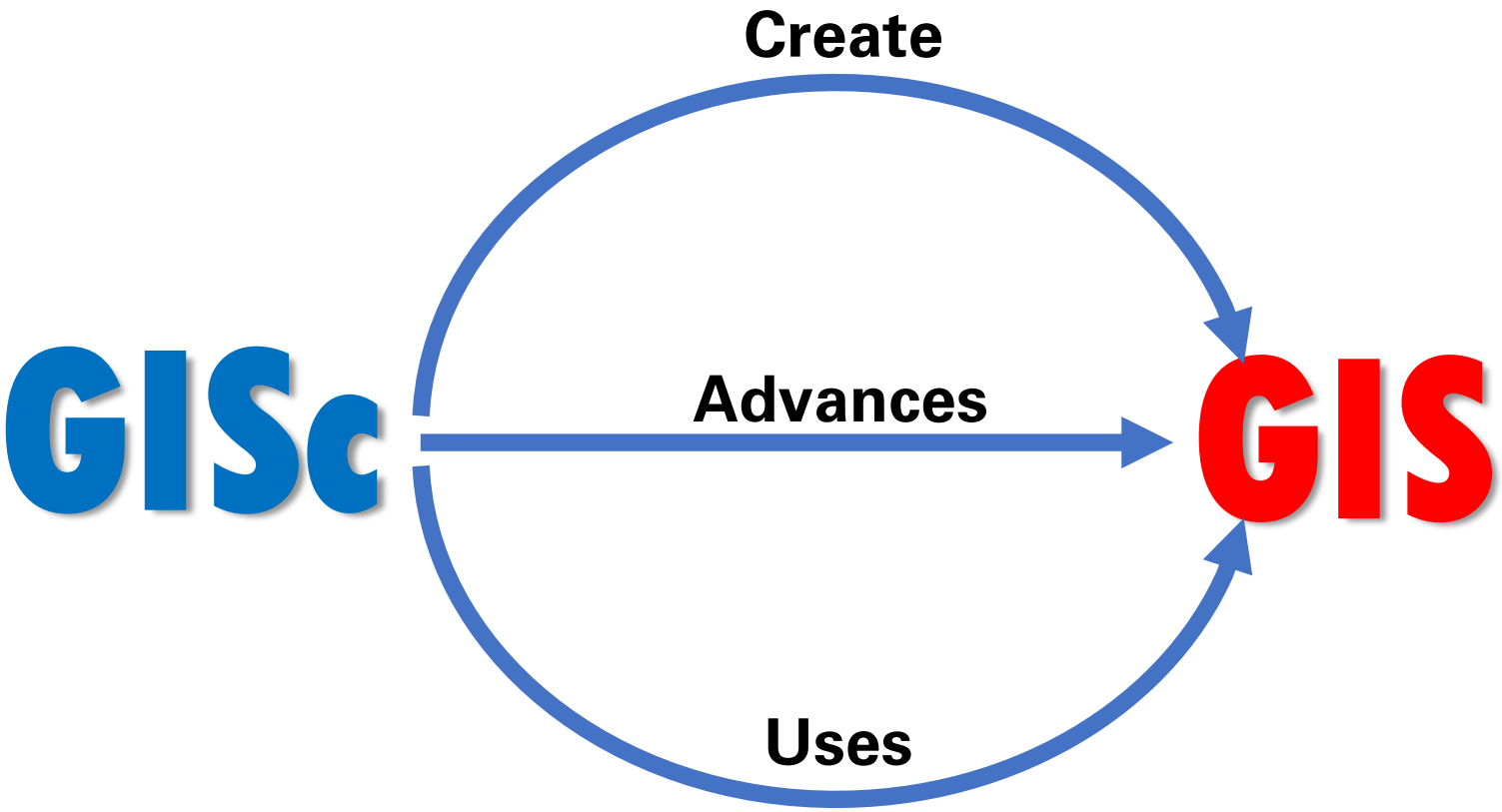
- GIScience examines the conceptual ideas behind the systems
- delves into **how** this technology works and the science behind it

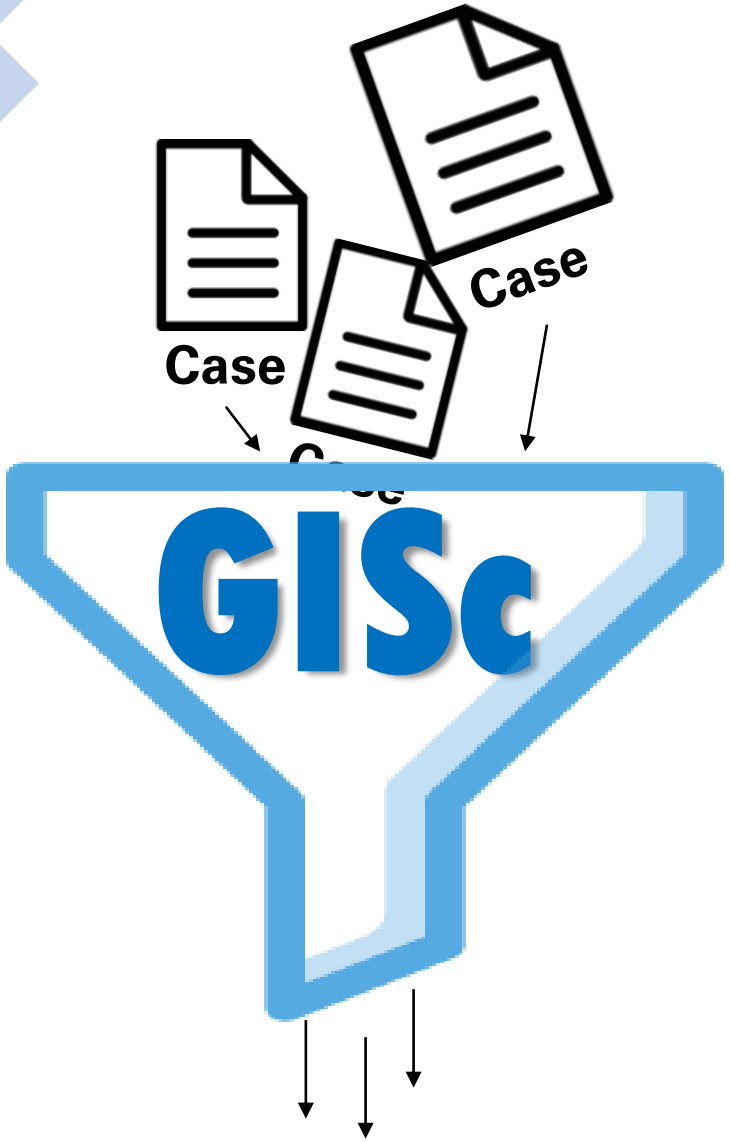
GIS

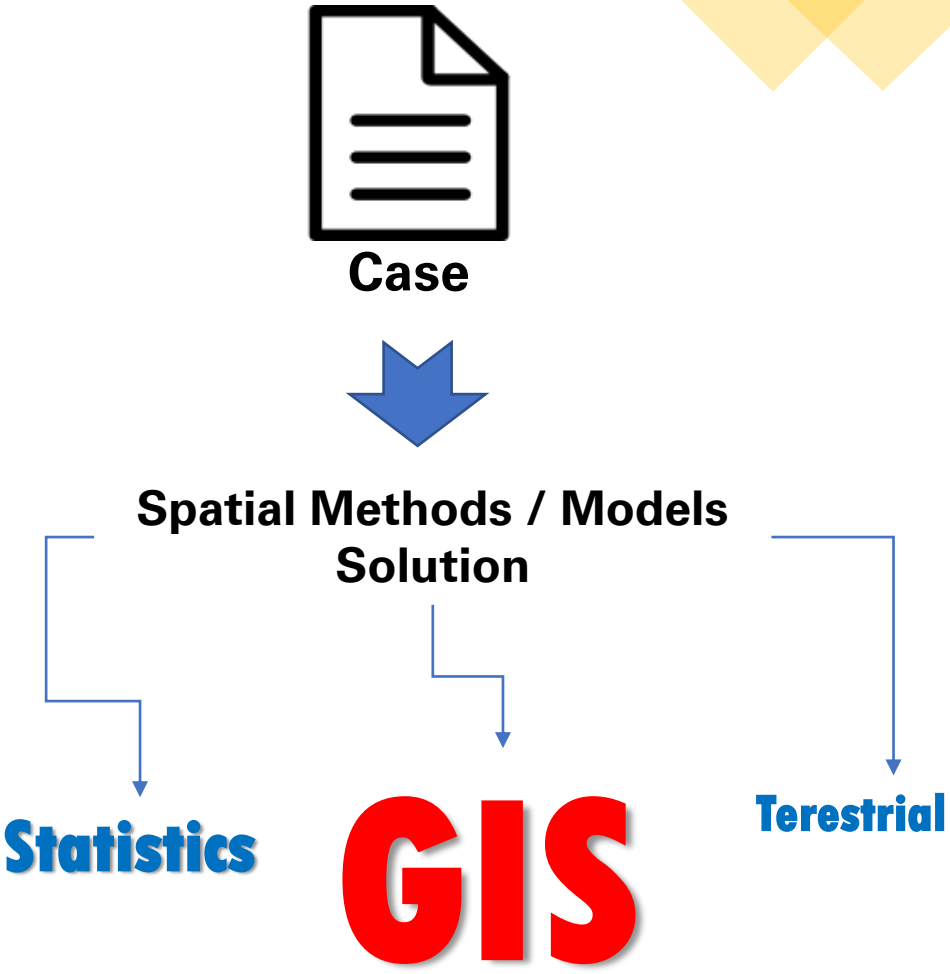
Geographical Information System

- hardware and software that captures, manipulates, and represents geographic information
- look at the **“what”** and the **“where”** (the tools and procedures)

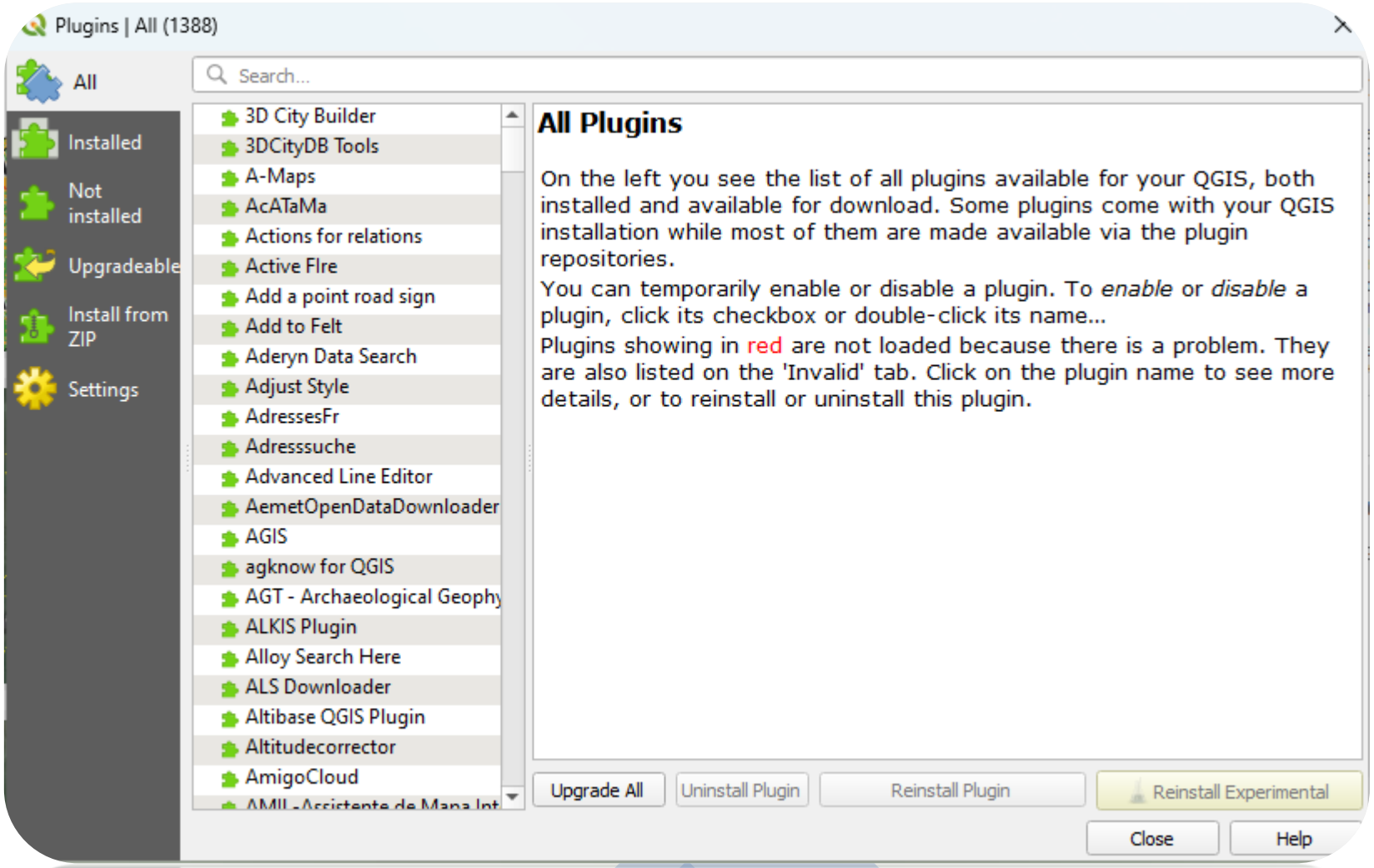
https://onlinedegrees.kent.edu/blog/post/gisc-gis-difference


Create
GISc
Advances
GIS
Uses


Case
Case
Case
GISc
Spatial Methods / Models Solution


Case
Spatial Methods / Models Solution
Statistics
GIS
Terestrial

ArcGIS
MapInfo
maptive
ILWIS


Plugins | All (1388)
All
Installed
Not installed
Upgradeable
Install from ZIP
Settings
Search...
3D City Builder
3DCityDB Tools
A-Maps
AcATaMa
Actions for relations
Active Flre
Add a point road sign
Add to Felt
Aderyn Data Search
Adjust Style
AdressesFr
Adresssuche
Advanced Line Editor
AemetOpenDataDownloader
AGIS
agknow for QGIS
AGT - Archaeological Geophy
ALKIS Plugin
Alloy Search Here
ALS Downloader
Altibase QGIS Plugin
Altitudecorrector
AmigoCloud
All Plugins
On the left you see the list of all plugins available for your QGIS, both installed and available for download. Some plugins come with your QGIS installation while most of them are made available via the plugin repositories.
You can temporarily enable or disable a plugin. To enable or disable a plugin, click its checkbox or double-click its name...
Plugins showing in red are not loaded because there is a problem. They are also listed on the 'Invalid' tab. Click on the plugin name to see more details, or to reinstall or uninstall this plugin.
Upgrade All
Uninstall Plugin
Reinstall Plugin
Reinstall Experimental
Close
Help

GISc

NCGIA, 1989

Scope

1. Spatial analysis and spatial statistics
2. Spatial relation and database structure
3. Social, economic, and institutional issues

National Center for Geographic Information and Analysis (NCGIA), 1989

GISc

Goodchild, 1992

Contents are concepts of :

1. **Data collection and measurement;**
2. **Data capture;**
3. **Spatial statistics;**
4. **Data modelling and theories of spatial data;**
5. **Data structures, algorithms and processes,**
6. **Display;**
7. **Analytical tools;**
8. **Institutional, managerial and ethical issues**

GISc

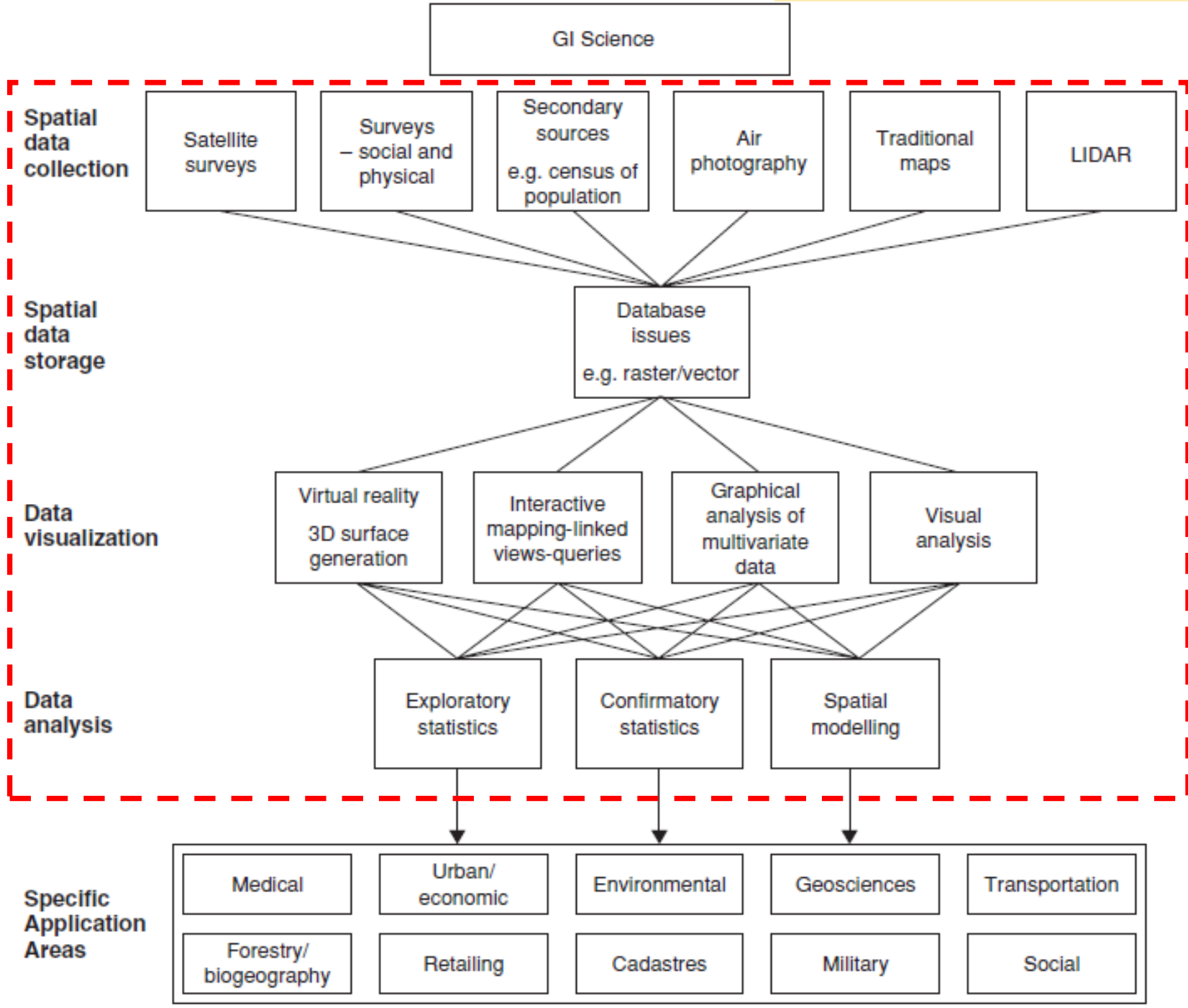
Viana et al , 2019

Contents are concepts of :

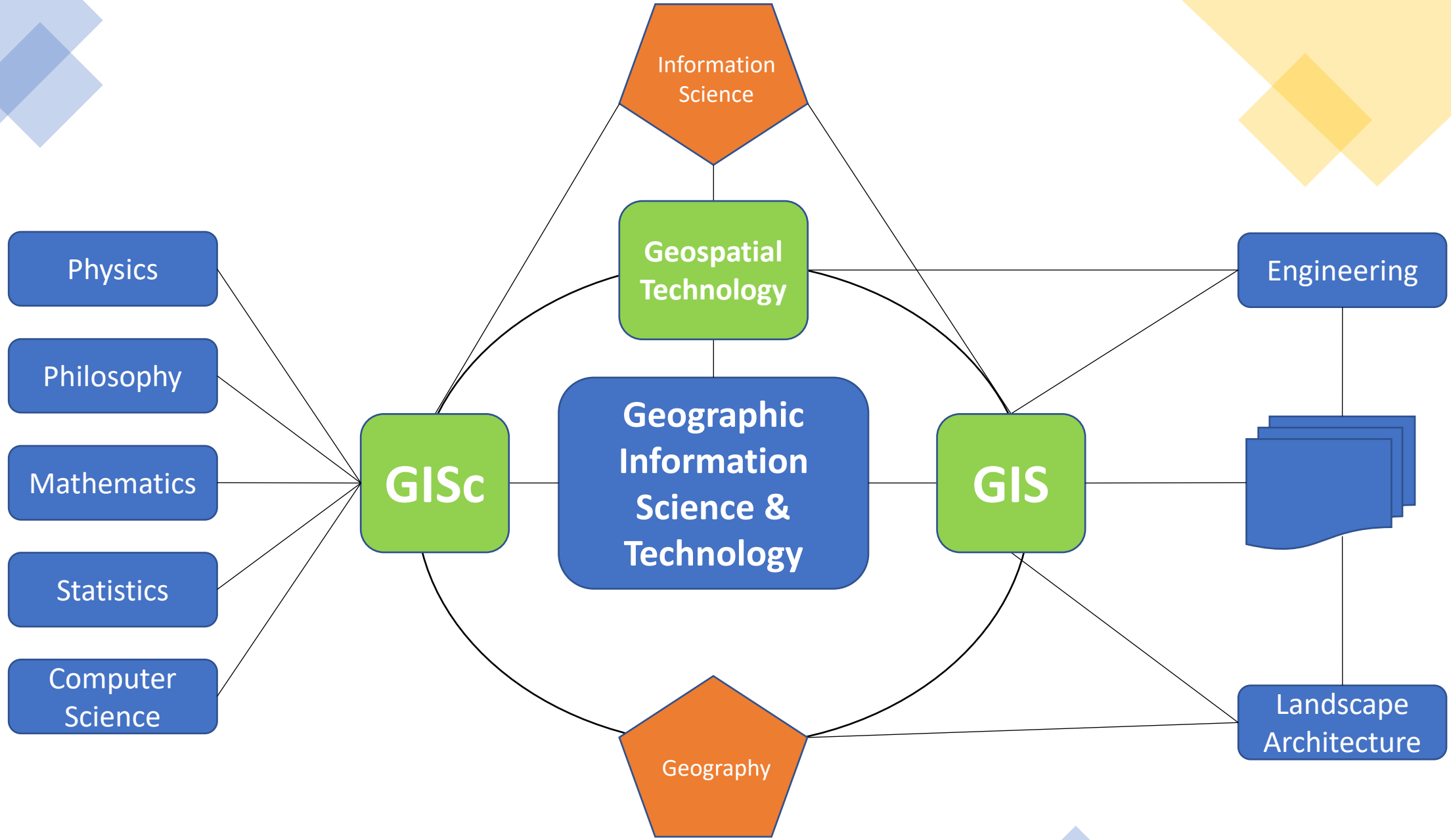
1. **Information gathering and quantification;**
2. **Data acquisition;**
3. **Geo(spatial) statistics and location analysis tools;**
4. **Spatiotemporal modeling and spatial concepts;**
5. **Spatial data infrastructures,**
6. **Algorithms and procedures;**
7. **Visualization;**
8. **Decision-making, administrative and moral concerns**

GISc

Fotheringham & Wilson, 1999



Fotheringham A.S. & Wilson J.P., 2013, Geographic Information Science:An Introduction, 1999

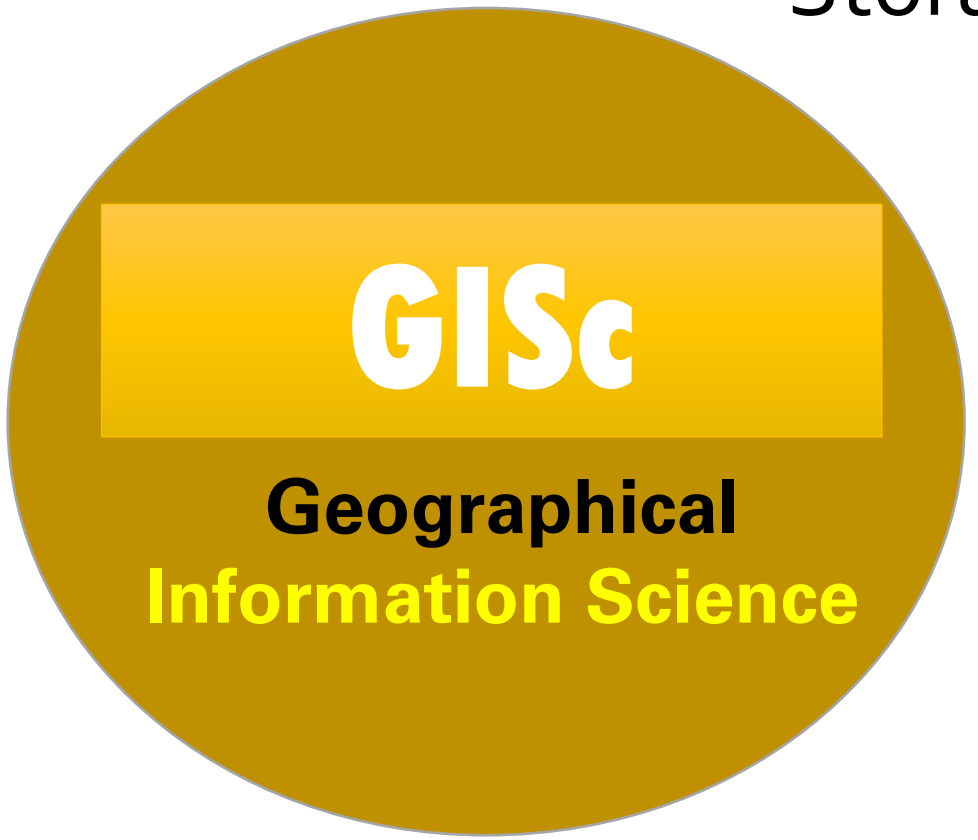


Viana et all, 2019

The concept of how to
Capture

The concept of how to
Storage

The concept of how to
Management



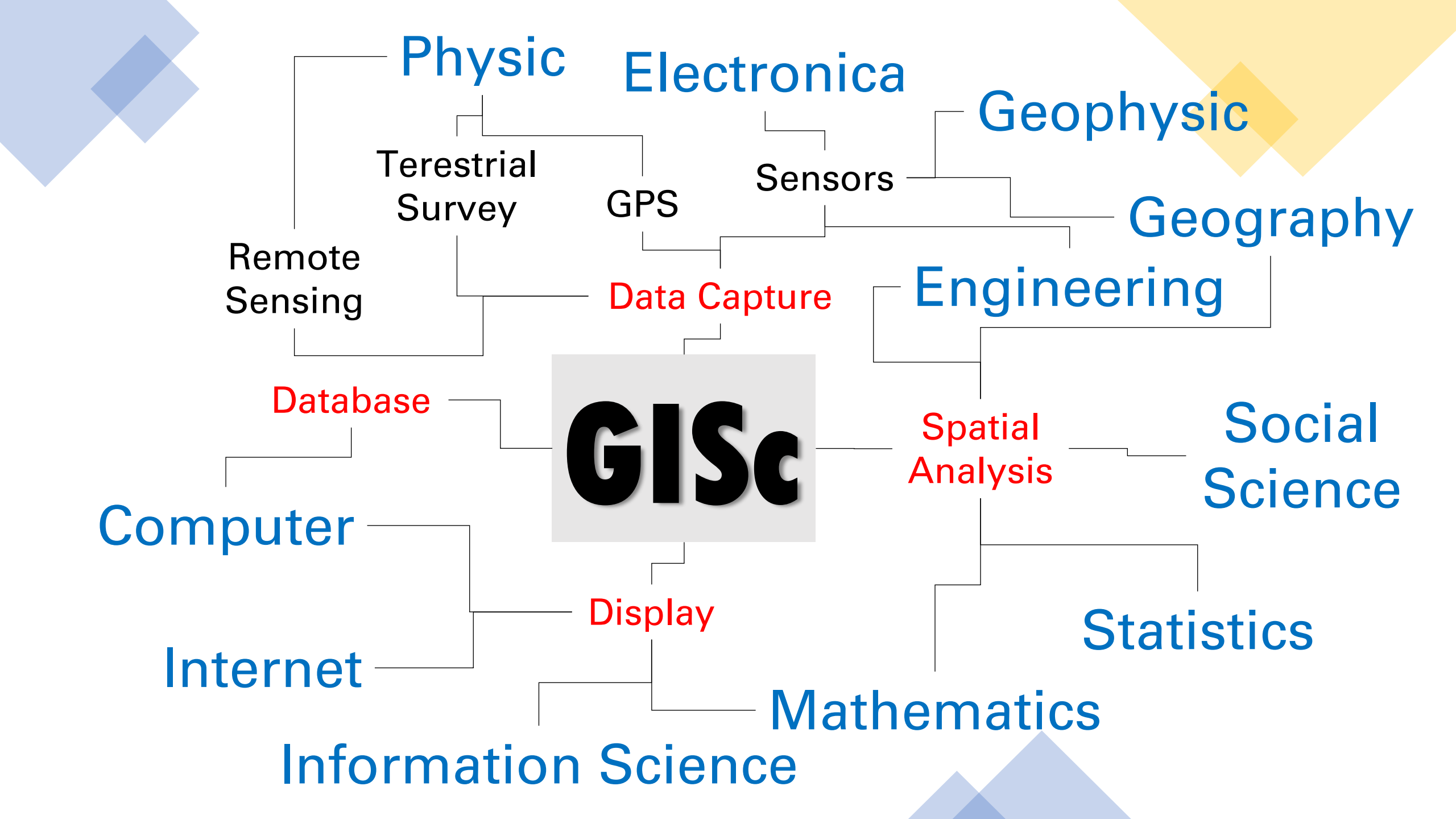
The concept of how to
Integration

The concept of how to
Modelling

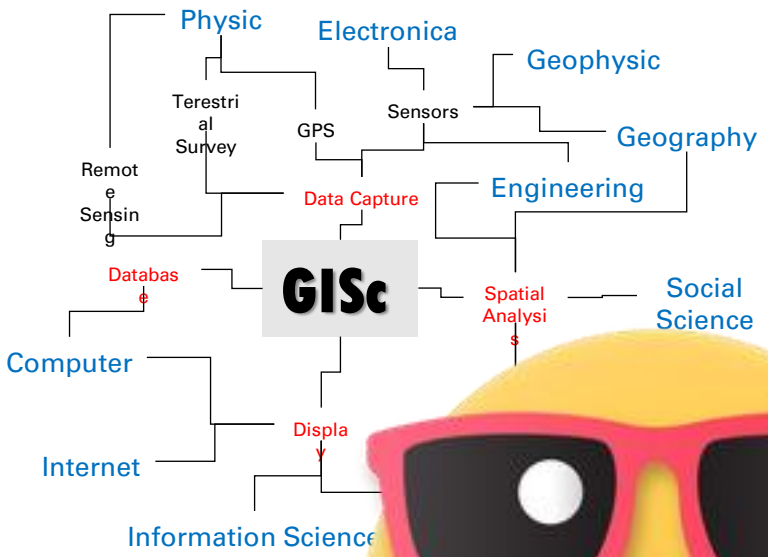
The concept of how to
Retrieval

The concept of how to
Analysis

The concept of how to
Visualization


Physic
Electronica
Geophysic
Terestrial Survey
GPS
Sensors
Geography
Remote Sensing
Data Capture
Engineering
Database
GISc
Spatial Analysis
Social Science
Computer
Display
Statistics
Internet
Mathematics
Information Science

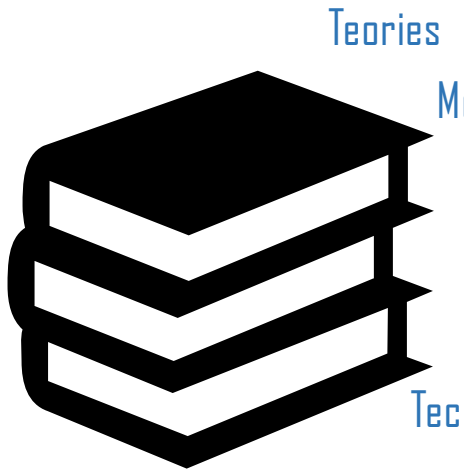
Outcome of the “Konsep dan Teknologi SAIG” lecturing



Concept

Method

Model



Thesis

Thank you...