CWTS scientometrics Summer school

学习报告-张建东

2020/5

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01

课程介绍

课程简介

课程构成

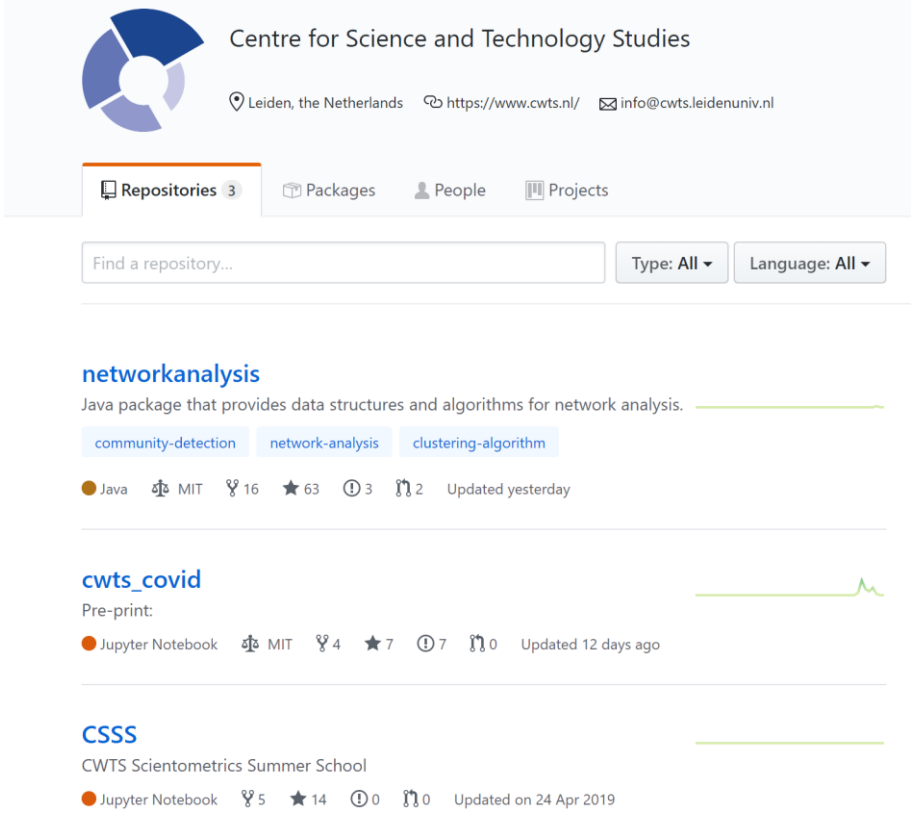
课程简介 1.1

1.CWTS

Centre for Science and Technology Studies

The Centre for Science and Technology Studies (CWTS) studies scientific research and its connections to technology, innovation, and society. Our research, bibliometric and scientometric tools, and evaluation expertise provide a solid basis for supporting research assessment and strategic decision making and for developing science policy.

2.CWTS on Github



课程构成 1.2

1.basics

数据读取
网络构建：作者共现网络，书目耦合网络
网络分析：连接性，聚类系数（局部与全局），
中心性，度，强度，中介中心性，Pagerank

2.advanced

VOSviewer
聚类：作者聚类，文档聚类（map,network）
Gephi

02

数据流分析

图的构成与计算机存储（以无向图举例）

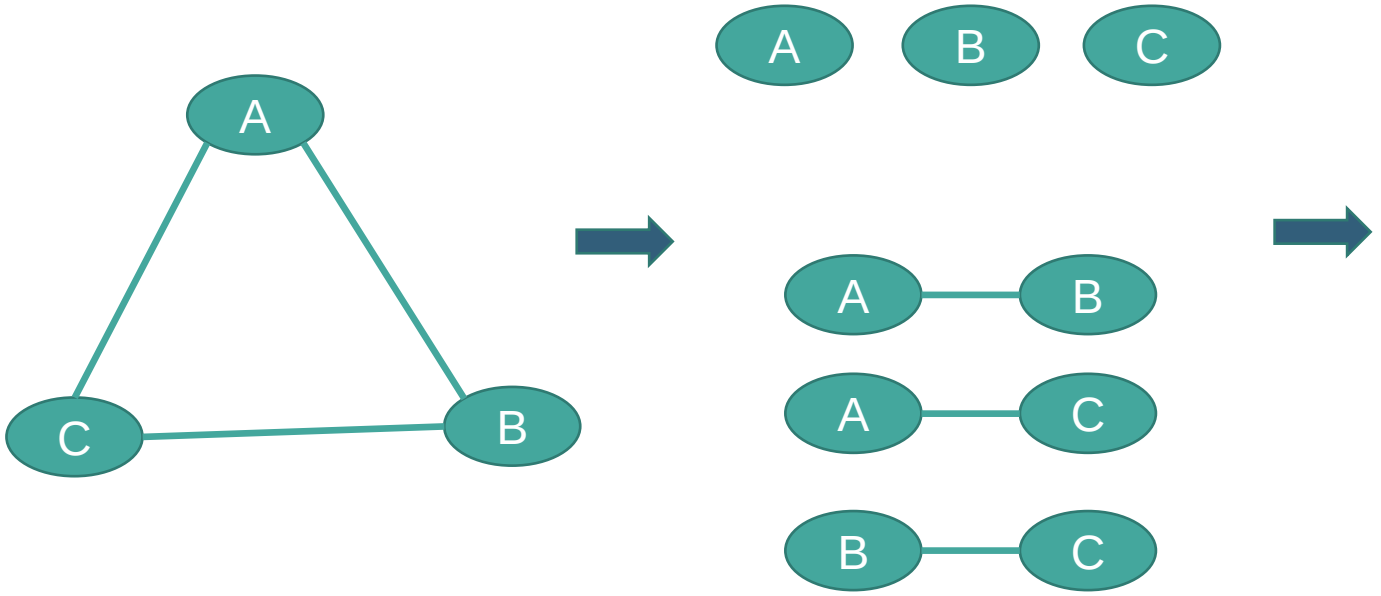
源文件

输出

数据处理

图的构成与计算机存储（以无向图举例）

2.1



ID	NAME
1	A
2	B
2	C

ID	NAME
1	A-B
2	A-C
2	B-C

源文件

2.2

1.basics

WOS数据文件

AU	SO	CR
Lagatie, O; Ediage, EN; Pikkemaat, JA; Djuardi, Y; Stuyver, LJ	PARASITES & VECTORS	DEJONGE N, 1990, T ROY SOC TROP MED H, V84, P815, DOI 10.1016/0035-9203(90)90094-U; HALL A, 1990, EXP PARASITOL, V70, P35, DOI 10.1016/0014-4894(90)90083-O; Katz N, 1972, Rev Inst Med Trop Sao Paulo, V14, P397; Nikolay B, 2014, INT J PARASITOL, V44, P765, DOI 10.1016/j.ijpara.2014.05.009; O'Connell EM, 2016, AM J TROP MED HYG, V95, P508, DOI 10.4269/ajtmh.16-0266; Tahapary DL, 2015, BMC INFECT DIS, V15, P1, DOI 10.1186/s12879-015-0873-4; van Dam GJ, 2004, J CLIN MICROBIOL, V42, P5458, DOI 10.1128/JCM.42.12.5458-5461.2004

2.advanced

Map文件：
记录点的信息

id	label	x	y	cluster	weight<Lir
3	abad, y.	1.2059	0.3813	19	9
9	abatih, em	-0.4738	0.1234	3	35
11	abatih, em	-0.2703	0.0869	3	19
25	abdulla, sa	-0.0992	0.3705	1	31
31	abebe, ger	-0.8924	-0.2397	2	2
37	ablordey, a	-0.2652	-0.1063	10	26
39	abongome	1.0826	-0.1001	18	15
40	abongome	-0.5538	-0.3671	23	14

Network文件：
记录边的信息

```
1    3    601 1
2    3    4575    1
3    3    6635    2
4    3    7417    2
5    3    7567    2
6    3    7654    1
7    3    8339    1
```

输出

2.3

1.basics

作者共现网络

书目耦合网络

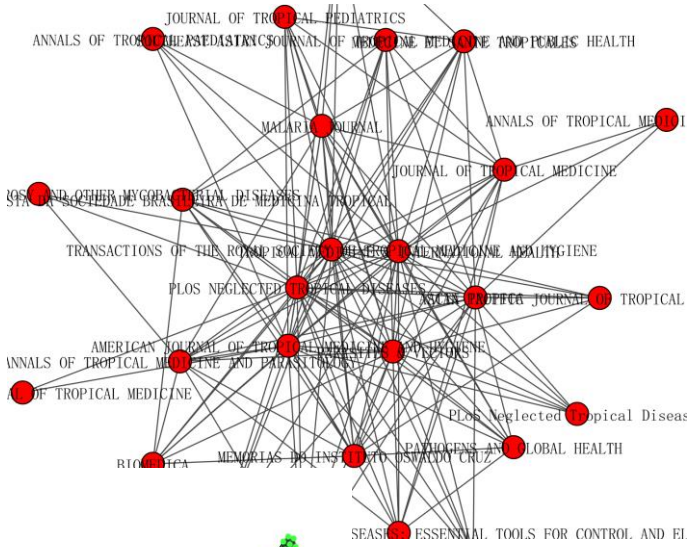
指标代码举例

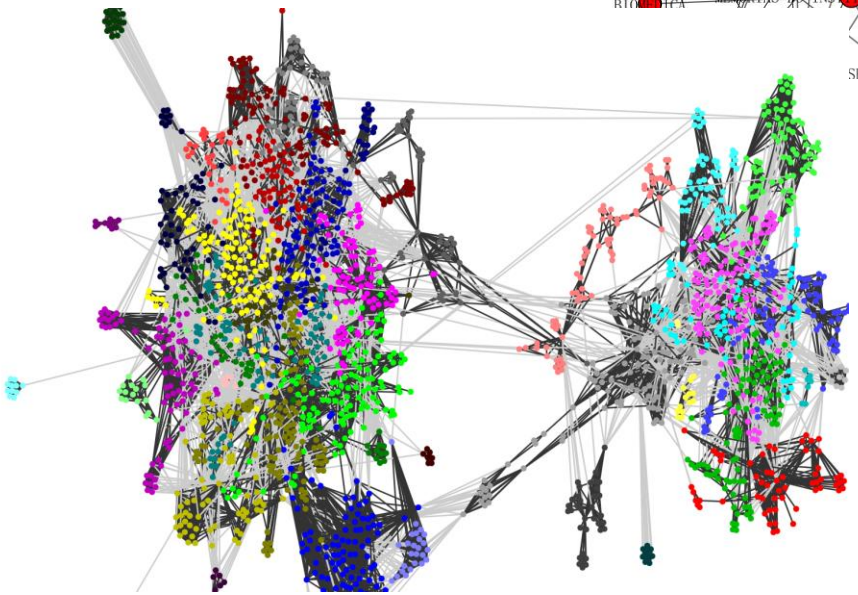
2.advanced

作者聚类

文档聚类

本例中构建了一个来源期刊构成的网络





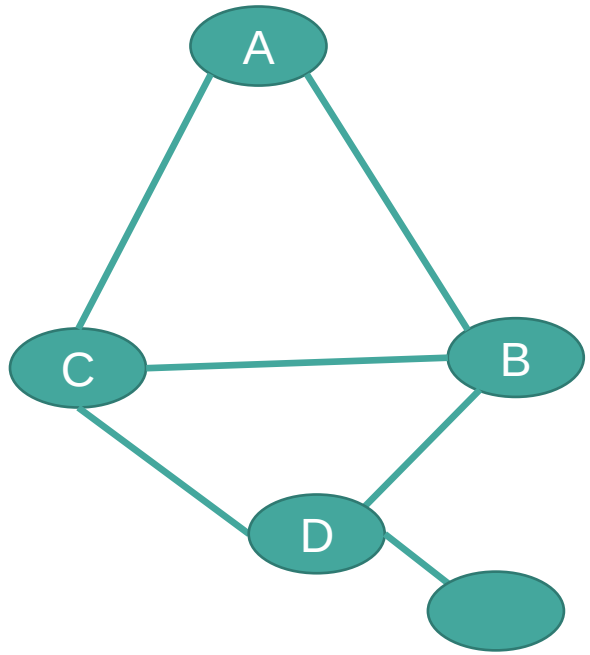
数据处理-构图

2.4

ID	AU
1	A,B,C
2	B,C,D
3	D,F,E

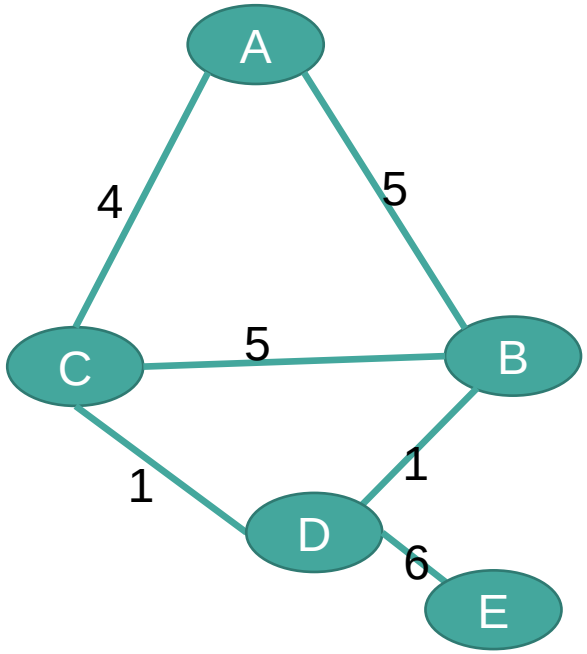
ID	NODEs
1	A
2	B
3	C
4	D
5	E
6	F

ID	EDGEs
1	A-B
2	A-C
3	B-C
4	B-C
5	B-D
…	…

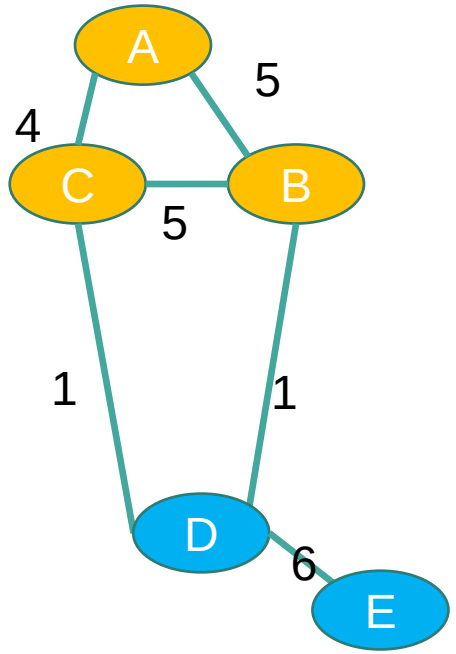


数据处理-聚类

2.4



聚类算法

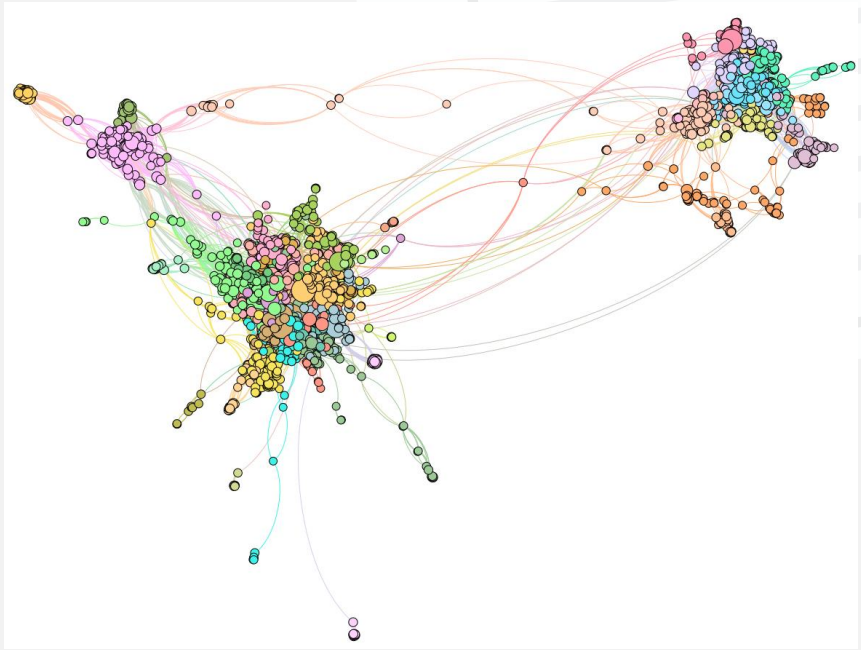


03

代码分析

Code

Gephi



thanks

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