# **PROJECT**



## **Topics**

- □ Survey:
  - Security and Privacy for Big Data: A Survey and Future Directions
- **□** Experiment:
  - MapReduce Jobs For Video Conversion



## 1. Survey

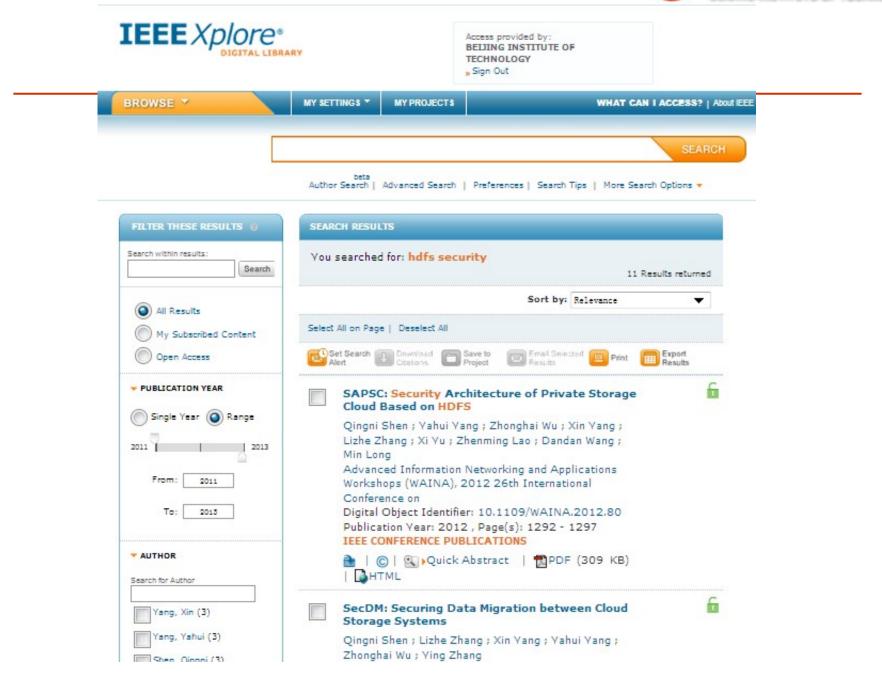
- Write a good survey in English on
  - Security and Privacy for Big Data: A Survey and Future Directions
- □ Cite at least 20+ references (IEEEXplore and ACM Digital Lib)
- Paper organization
  - Classify these works in different categories, from different angles
  - Extensive comparisons
  - Identify future directions (i.e., what are the missing pieces?)



## Survey

- How BIG the data can be? Why privacy becomes an issue?
- Data collection:
  - Security for sensor networks
  - Security for machine-to-machine (M2M) communications
- Data storage
  - Cloud: HDFS/GFS, HBase (MongoDB, BigTable...)
  - Real-time data streaming
  - Public and private cloud
  - Security for Data center networks
- Data analytics:
  - Framework: MapReduce (private and public cloud)
  - algorithms...
- Applications
  - IoT: transportation, healthcare...
- □ Commercial products: HP, EMC, IBM, Google

## 





## http://dl.acm.org



Beijing Institute of Technology

	SIGN IN	SIGN UP
cloud security		
		SEARCH

Searching for: cloud security (start a new search)

Found 4,833 within Publications from ACM and Affiliated Organizations (Full-Text collection)

Expand your search to The ACM Guide to Computing Literature (Bibliographic citations from major publishers in computing: 2.171.951 records)



ADVANCED SEARCH



#### **Other Materials**

- http://www-03.ibm.com/security/solution/intelligence-bigdata/
- https://ssl.www8.hp.com/ww/en/secure/pdf/4aa4-4051enw.pdf
- http://www.emc.com/collateral/industry-overview/big-data-fuels-intelligence-driven-security-io.pdf
- http://www.isaca.org/Groups/Professional-English/bigdata/GroupDocuments/Big\_Data\_Top\_Ten\_v1.pdf
- http://www.trendmicro.com/cloudcontent/us/pdfs/business/white-papers/wp\_addressing-bigdata-security-challenges.pdf
- http://scholarlycommons.law.northwestern.edu/njtip/vol11/iss5/1/



### 3. MapReduce For Video Conversion

- □ Convert huge number of video files from one format to another.
- using the open source video converter FFMPEG (http://ffmpeg.org/download.html).
- Data stored on HDFS
- Create an app doing it (running on Google AppEngine)



#### Mechanism

- Working in group: 4 students, clear roles, mixed of nationalities
- Email me (ase\_bit@yahoo.com) by this Friday (Dec 6)
  - Team leader, Team members
  - Topic
- □ Deadline: 27 December 2013!
- Deliverable: project report
  - Introduction (motivation, WHY?)
  - Related Work (What others have done)
  - Your proposal (HOW?)
  - Performance Evaluation
  - Conclusion
- □ Presentation (29 December 2013)