PROJECTS

Analysis of Large Scale Social Networks

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WHAT?

Topic

1. Analytics Project (Python iGraph)
2. Graph Database (Neo4J)
3. Distributed Graph Programming (Spark – GraphX)

Grading: 25% of final grades based on report

Individual or group of up to 4 students (1,2,3 4 students)

DELIVERABLES

- Report
  - Introduction
  - Methodology and Data
  - Results
  - Conclusion with focus on gained knowledge
- Source Code or script
- If group: Individual contribution

Pay attention to Validity, Reliability of results and Complexity of proposed methodology.

ANALYTICS PROJECT

Objective is to learn and demonstrate

- Understand data set: Nodes, edges and properties
- Define relevant research questions and describe research methodology
- Read graph data
- Pre-Process graph data
- Calculate measures at global and local level
- Cluster analysis (different algorithms, different resolutions)
- Visualize results

Deliverables:

- Source Code or script
- Report (Describe each step)
- Individual contribution and gained knowledge

Pay attention to Validity, Reliability of results and Complexity of proposed methodology.

ANALYTICS PROJECT

Objective is to learn and demonstrate

- Understand Graph Data Model: Nodes, edges and properties
- Define relevant application and describe methodology
- Develop software for import/export or analyse graph data

Deliverables:

- Source Code or script
- Report
- Individual contribution and gained knowledge

GRAPH DATABASE

DISTRIBUTED GRAPH PROCESSING

Objective is to learn and demonstrate

- Understand Pregel & Bulk Synchronous Parallel
- Define relevant application and describe algorithm
- Develop software for graph analytics

Deliverables:

- Source Code or script
- Report
- Individual contribution and gained knowledge

TIMING

- Friday, April 1st

  You: Team up with fellow students and indicate your interest in one out of the three possible tasks

  Propose your own data set/Programming task.

- Wednesday, April 6th

  I: Distribute assignments for project

- Friday, April 8th

  You: Approve the task

- Friday, May 27th

  You: Submission Final version