Statistical NLP
Exercises / Mini Projects
Wintersemester 2018–2019

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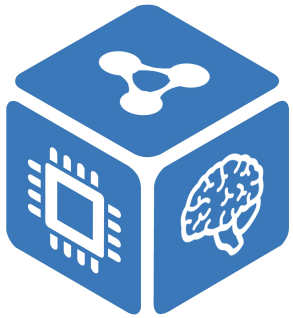
Michael Röder, Adrian Wilke

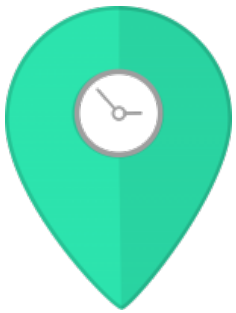


Data Science Group

October 24, 2018

Organization

Time, Location, Format



- **Time and location**:
  - **Lectures**: Wednesdays, 16:15-17:45 in lecture hall O2
  - **Exercises**: Tuesdays, 16:15-17:45 in lecture hall O2/O4-267 (see Paul)
  - **Mini-Project**: Final submission on 30.01.2019

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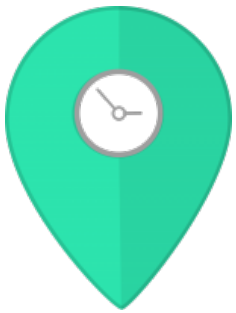

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  - **Mini-Project**: Final submission on 30.01.2019
- **Format** $= 2 + 1 + 2$
  - 2 hours of lecture
  - 1 hour of exercise (1 bi-weekly)
  - 2 hours mini-project
- Exact number of presentations depends on how many make it to the end
- Slides, exercises and communication via PAUL

- Bi-weekly from October. 24th, 2017 onwards
- 7 days for completion of each series (avg. 20 points/series)
- Exercises to be submitted Wednesday latest at 09:00am (time stamp of our server)

Series	Exercise	Submission	Solution
1	2018/10/24	2018/31/10	2018/11/06
2	2018/11/07	2018/11/14	2018/11/20
3	2018/11/21	2018/11/28	2018/12/04
4	2018/12/05	2018/12/12	2018/12/18
5	2019/12/19	2019/01/09	2019/01/15
6	2019/01/16	2019/01/23	2019/01/29

Exercises

Proposed workflow

1. Exercise is online
2. Read the exercise (**carefully!**)
3. Solve the exercise using Java
   (e.g., in your IDE)
4. Test your exercise with the provided test cases
5. Copy your solution into the NBgrader UI
   Make sure it is working in NBgrader!
6. Submit your solution in NBgrader

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We will grade solutions with **0 points** if

- the submitted code is not working
- the submitted code is using a library that was not explicetly mentioned in the description
- the student sends Java source or jar files via mail
  (without being asked for them)

Exercises

Important hints

- Read the exercise description carefully!
  We may test your implementation regarding corner cases.

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  We may test your implementation regarding corner cases.
- Don't wait until the last moment for submission!
- If you encounter issues with NBgrader, contact us **before** the submission deadline! (e.g., write a mail to `eim-i-fg-ds-stud@lists.uni-paderborn.de` with `[SNLP]` in the reference line)

Exercises

It's time for a demo...

`https://diceapp.cs.upb.de:8080`

Exercises

Questions regarding the exercises?

Goal

Build a corpus-driven fact-checking engine, which returns a confidence value between -1 (fact is false) and +1 (fact is true) given a fact from DBpedia

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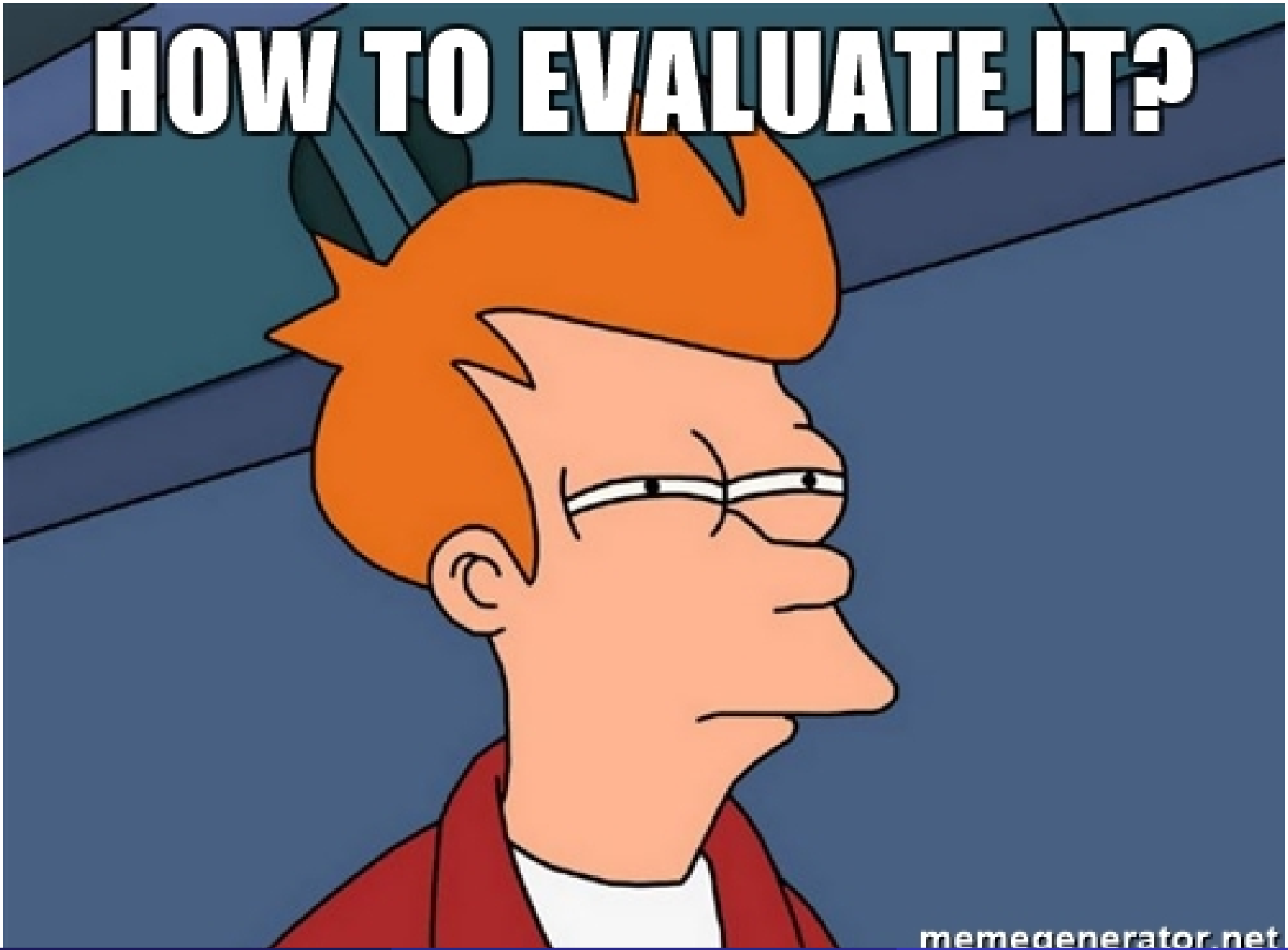
Build a corpus-driven fact-checking engine, which returns a confidence value between -1 (fact is false) and +1 (fact is true) given a fact from DBpedia

- **Group size**: max. 3 persons
- **Code & documentation**: GitHub/GitLab
- **Suggested steps**
  1. Corpus creation (2 weeks)
  2. Corpus normalization (2 weeks)
  3. Corpus analysis (2 weeks)
  4. Fact Checking and Benchmarking (rest)
  5. Final submission: 30.01.2019
  6. Group registration: `https://goo.gl/forms/hQeVYZD0RE6jgG932`

Mini-Project



Mini-Project

Evaluation overview

Simple three steps to get an evaluation result.

1. TSV file in PAUL containing training data
   (Will be uploaded during the next week)
2. Your approach should generate a result file
3. Result files can be uploaded in GERBIL for evaluation

Training TSV file has three fields

FactID	Fact_Statement	True/False
560	Kill Bill stars Uma Thurman.	1.0
876	John Wayne's death place is Oxford.	0.0
⋮		

Mini-Project

Result format

Result file format (`result.ttl`)

- One line per fact
  `<Fact-URI> <prop-URI> "value"^^type .`
- Fact-URI is the following URI with the Fact-ID from the TSV file
  `http://swc2017.aksw.org/task2/dataset/Fact-ID`
- the prop-URI is always
  `http://swc2017.aksw.org/hasTruthValue`
- the value is the result of your fact checking algorithm (double)
- type of your value should be always
  `<http://www.w3.org/2001/XMLSchema#double>`

Mini-Project

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Possible results for the two examples (in two lines):

```
<http://swc2017.aksw.org/task2/dataset/560>
  <http://swc2017.aksw.org/hasTruthValue>
  "0.8901"^^<http://www.w3.org/2001/XMLSchema#double> .
<http://swc2017.aksw.org/task2/dataset/876>
  <http://swc2017.aksw.org/hasTruthValue>
  "-0.33113"^^<http://www.w3.org/2001/XMLSchema#double> .
```

Mini-Project

Evaluate result

1. Go to `http://swc2017.aksw.org/gerbil/config`.
2. Choose "SWC 2017 Task 2" as experiment type.
3. Enter your team name and a mail address.
   The address won't be visible. It is used to make sure that you are part of this team.
4. Upload your result file.
5. Choose "SNLP 2018 Train" as reference dataset.
   (Later, "SNLP 2018 Test" will be available.)
6. Agree to publish your result.
7. Agree to the disclaimer.
8. Submit your result.

Mini-Project

Evaluate result

- GERBIL will determine the Area Under Curve (AUC) of your systems ROC curve. This value has the range $[0, 1]$.
- All results will be visible in a leaderboard which can be accessed at `http://swc2017.aksw.org/gerbil/overview`.
- If you see the message *"The annotator couldn't be loaded"* instead of a result your file has a wrong format (Checking it with an RDF validator might be a good way to go).
- Questions regarding the Mini-Project can be asked during the exercise meetings.

Mini-Project

Evaluate result

What do we expect?

- In GERBIL, your team should have
  - at least one result for "SNLP 2018 Test" in the leadboard
  - that is better than a random guesser.
    (e.g., `http://swc2017.aksw.org/gerbil/experiment?id=201712130003`)
- A documented open-source project containing your fact checker.
- A document describing your approach.
- 10 examples (5 correct and 5 false facts)
  - that are not part of the training or test dataset and
  - that your system is not able to handle.

Mini-Project

Questions regarding Mini-Project?