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### Swiss Text 2017 2nd Swiss Text Analytics Conference

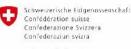


Mark Cieliebak
Conference Chair

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### Swiss Text 2017 2nd Swiss Text Analytics Conference

#### **Presented by**



Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER Commission for Technology and Innovation CTI Innovation Promotion Agency



























University of Applied Sciences and Arts Western Switzerland













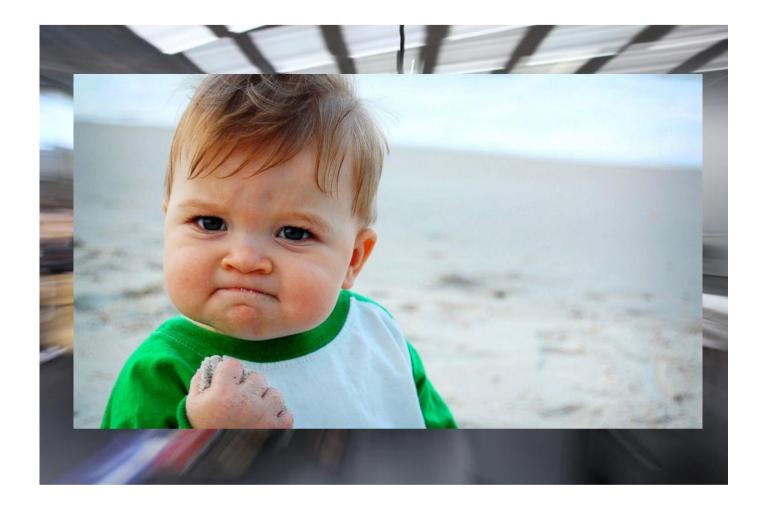








#### **How it feels to organize SwissText**





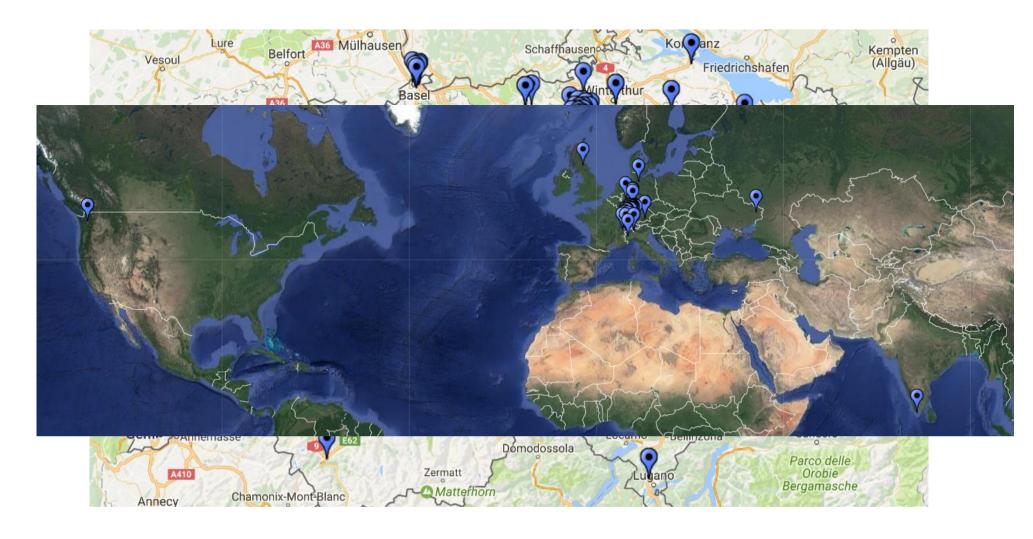
#### **Speed Record**

### 240 Seconds



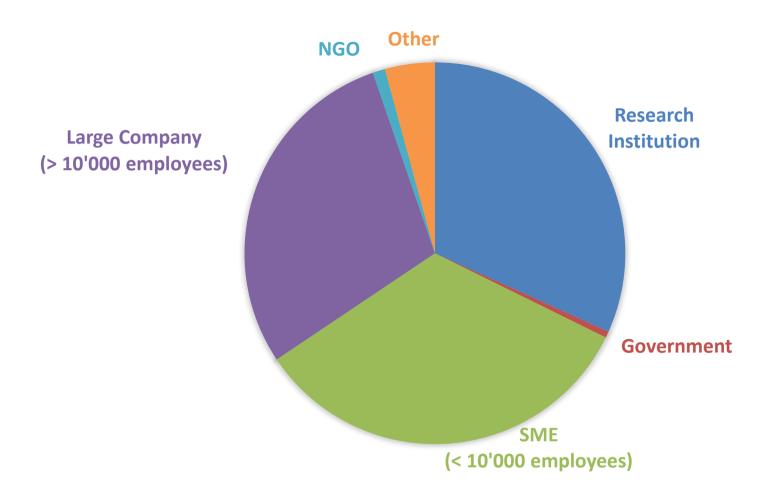


#### Where do you come from?





#### Where do you work?





#### **Research Institutions**

- 1. Bern University of Applied Sciences
- 2. EPFL
- 3. Haute Ecole Arc Ingénierie
- 4. Heriot-Watt University
- 5. Idiap Research Institute
- IDSIA Research Institute
- 7. Lucernce University of Applied Sciences and Arts
- 8. SUPSI Research Institute
- 9. University Hospital Zurich
- 10. University of Applied Sciences and Arts Northwestern Switzerland
- 11. University of Applied Sciences and Arts of Southern Switzerland
- 12. University of Applied Sciences and Arts Western Switzerland
- 13. University of Applied Sciences Darmstadt
- 14. University of Applied Sciences Munich
- 15. University of Applied Sciences of Eastern Switzerland
- 16. University of Geneva
- 17. University of Zurich
- 18. Uppsala University
- 19. Zurich University of Applied Sciences



#### >180 Participants from Research and.....

- 42matters AG
- areto consulting gmbh
- Argus der Presse AG
- ATEGRA
- Bedag Informatik AG
- Beekeeper AG
- Blauen Solutions Pivotal Connections in Context
- Celi S.r.l.
- Cistec AG
- Comparis
- D ONE Solutions AG
- Deloitte Consulting AG
- DSM
- DTI AG
- Dydon
- eat.ch
- ELCA Informatik AG
- F ECTIVE AG
- F. Hoffman La Roche Ltd
- FIND

- finnova AG Bankware
- Generali Versicherung
- IBM
- Iprova
- Jaywalker Digital
- Kottackal Business Solutions Pvt. I td.
- KPMG AG
- Language Box GmbH
- Liip AG
- MEAG MUNICH ERGO AssetManagement GmbH
- Microsoft
- nlyze
- Noser Engineering AG
- Novartis AG
- NZZ
- Open Web Technology
- peaq GmbH
- Perlentexter
- Plazi

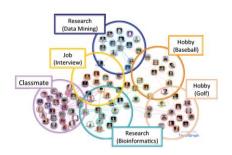
- Post CH AG
- Procter & Gamble
- PwC
- RepRisk AG
- SAS Institute AG
- Semfinder AG
- SlowSoft GmbH
- SpinningBytes AG
- Supertext AG
- Swiss Re
- Swisscom
- Tamedia
- textshuttle
- turicode AG
- UBS
- Vidatics GmbH
- Wabion AG
- Wincasa AG
- Yourposition AG



#### This is it: Text!



#### **Machine Translation**



**Topic Modeling** 



#### **Text Classification**

Flipped Classroom (also known as "Inverted Teaching") is a teaching method where lecture and homework are "flipped": first, students prepare the topic of the next lecture at home, e.g. by reading part of a text book, watching e-lectures, or working with elearning-modules. Then, in the lecture, students work with the teacher to clarify open questions, discuss the topic and solve exercises. Knowledge-transfer mainly happens in the first, preparatory phase, leaving time and space for more communicative and collaborative activities during the lecture. Under the teacher's guidance, students establish cognitive connections to their prior knowledge - in traditional lectures, this task is left to be achieved by the students at home, after the lecture. Flipped Classroom lectures are highly interactive and students assume more responsibility for their own learning than in traditionally taught classes. For a successful implementation of the Flipped Classroom method, completion of the preparational tasks is crucial [4], and can be supported by online check-up questions, to be answered before the lecture, Flipped Classrooms have become very popular in recent years. They go back to the 1990's, when Eric Mazur introduced Peer Instructions in his physics lectures at Harvard University [9]. Since then, the concept has evolved into an established teaching method that is now used successfully at elementary schools, high schools and universities worldwide. Hundreds of guidelines, reports, books, conference proceedings and research papers have been published on Flipped Classroom. For an extensive literature and research survey, see [1] and [6].







Q&A

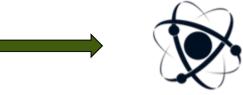


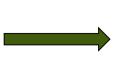




#### **Text Analytics in a Nutshell**









#### **Text**

#### **Sources**

- Medical research papers
- Legal texts laws, court rulings
- Patents
- Social Media and Emails
- News
- Customer Feedback
- Websites
- Technical Documentation
- Speech Transcriptions

#### **Algorithms**

- Rule-Based
- Feature-Based
- Deep Learning

#### Information





Value



#### **Text Analytics in a Nutshell**









#### **Text**

#### **Preprocessing**

- Language Detection
- Sentence Splitting
- Tokenization
- Stemming/Lemmatization
- Stopword Elimination
- POS tagging
- Syntactic Parsing

#### **Algorithms**

- Rule-Based
- Feature-Based
- Deep Learning

#### Information







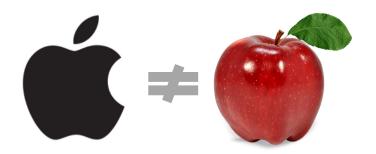
# Questions to answer before starting a text analytics project!



# Are you looking at the right data?

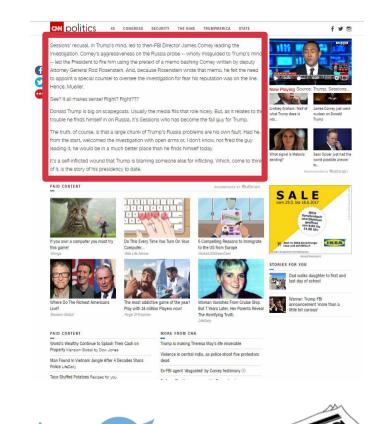


#### Are you looking at the right data?





http://peachsquared.com/wp-content/uploads/2013/12/Screen-Shot-2013-12-09-at-15.26.08.png





## Is your "Gold Standard" really golden?

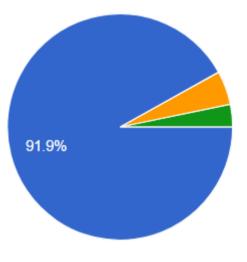


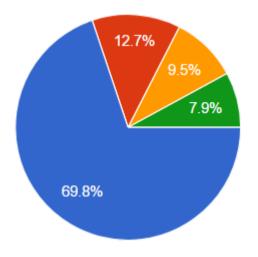
#### Is your "Gold Standard" really golden?

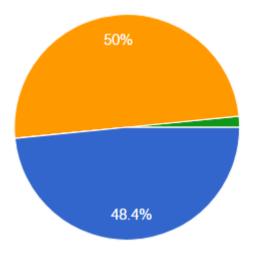
Lunch from my new
Lil spot ...THE
COTTON BOWL
....pretty
good#1st#time#will
be going back#

Tim Tebow may be availible! Wow Jerry, what the heck you waiting for!

Going to a bulls game with Aaliyah & hope next Thursday







Setup: 69 students in MAS Data Science at ZHAW. Sentiment classification in "positive", "negative", "neutral", "don't know"

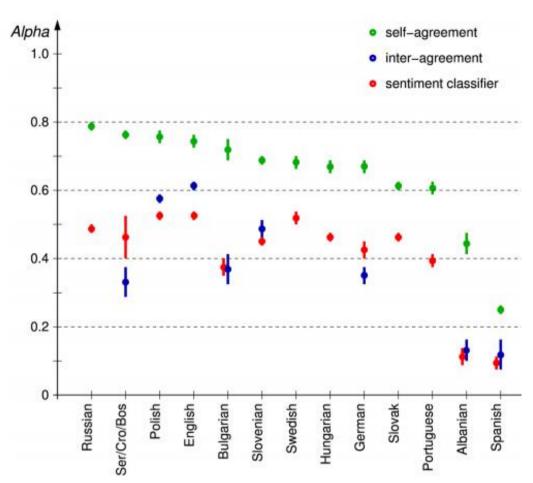
neutral/mixed

don't know

positive negative



#### Is your "Gold Standard" really golden?



#### **Experimental Setting:**

- over 1.6 million tweets
- 13 languages
- annotated with sentiment
- measured in Krippendorff's Alpha

Source: Multilingual Twitter Sentiment Classification: The Role of Human Annotators, by Igor Mozetič, Miha Grčar, Jasmina Smailović. PLOS ONE, 2015



### Do you really need Deep Learning?



#### Do you really need Deep Learning?









Named Entity Recognition





**Chatbots** 





# Is there any chance that you can meet the expectations?



#### Can you meet the expectations?

Task	Score	Measure	Dataset	Publikation
Machine Translation E->D	24.17	BLEU	WMT '14	Wu et al, 2016
Machine Translation E->Fr	38.95	BLEU	WMT '14	Wu et al, 2016
Named Entity Recognition (F)	58.89	F1	Cap 2017	to appear
Sentiment (E)	63.30	F1	SemEval 2016	Deriu et al., 2016
Sentiment (D)	64.19	F1	SB10k	Deriu et al., 2016
Named Entity Recognition (E)	90.90	F1	ConLL2003	Passos et al., 2014



#### Can you meet the expectations?

Google's chatbot artificial intelligence has some interesting ... ideas about morality, philosophy and the meaning of life.

cnet, 2.7.2015



**Human:** What is the purpose of life?

Machine: To serve the greater good.

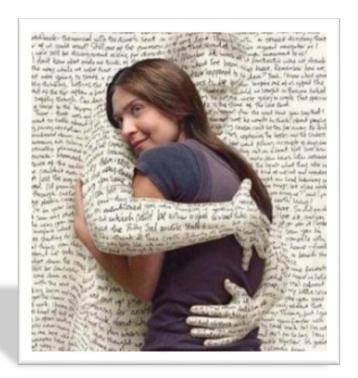
**Human:** What is the purpose of existence?

**Machine:** To find out what happens when we get to the planet earth.



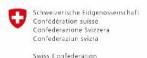
#### Today's Program

09:00 09:30	Welcome Message: Mark Cieliebal Keynote: Verena Rieser
10:40	Parallel Tracks 1
11:40	Lunch Break
13:00	Parallel Tracks 2
13:55 14:35	Keynote: Peter Stengard Poster Presentations Poster Session
16:20 17:00	Keynote: Margot Mieskes Closing + Apero





#### **Partners and Sponsors**



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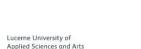
Arts of Southern Switzerland











HOCHSCHULE





Machine Learning and

Optimization Laboratory









LUZERN















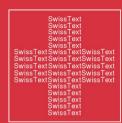


#### **Best Presentation Award**

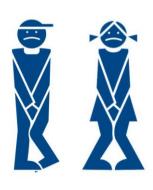
- Selected by the audience
- Keynote speakers not eligible



www.swisstext.org/2017/feedback



#### **Good to Know**



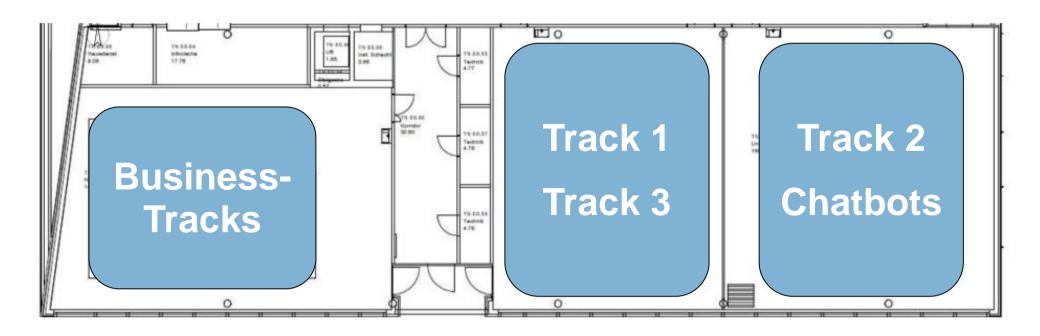








#### **Tracks**





#### **Organizing Committee**



**Mark Cieliebak** 



Floris Staub



**Marcin Cherek** 



**Fernando Benites** 



**Bettina Bhend** 

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### Swiss Text 2017 2nd Swiss Text Analytics Conference



**Closing Session** 



#### **Best Presentation Award**

Score: 4.7

Hamza Harkous

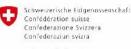
Pribot: A Chatbot for Privacy Policies



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SPINNINGBYTES

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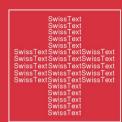












#### Time for Apero!

