# Big Data bei unstrukturierten Daten

AW1 Vortrag

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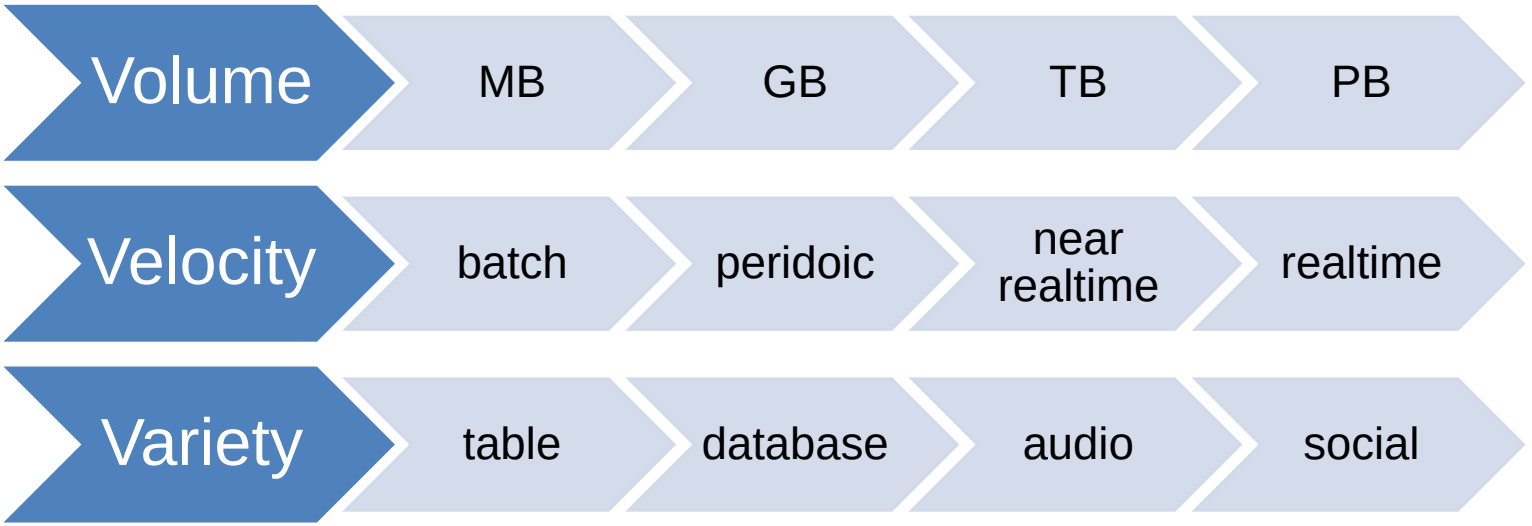
# Agenda

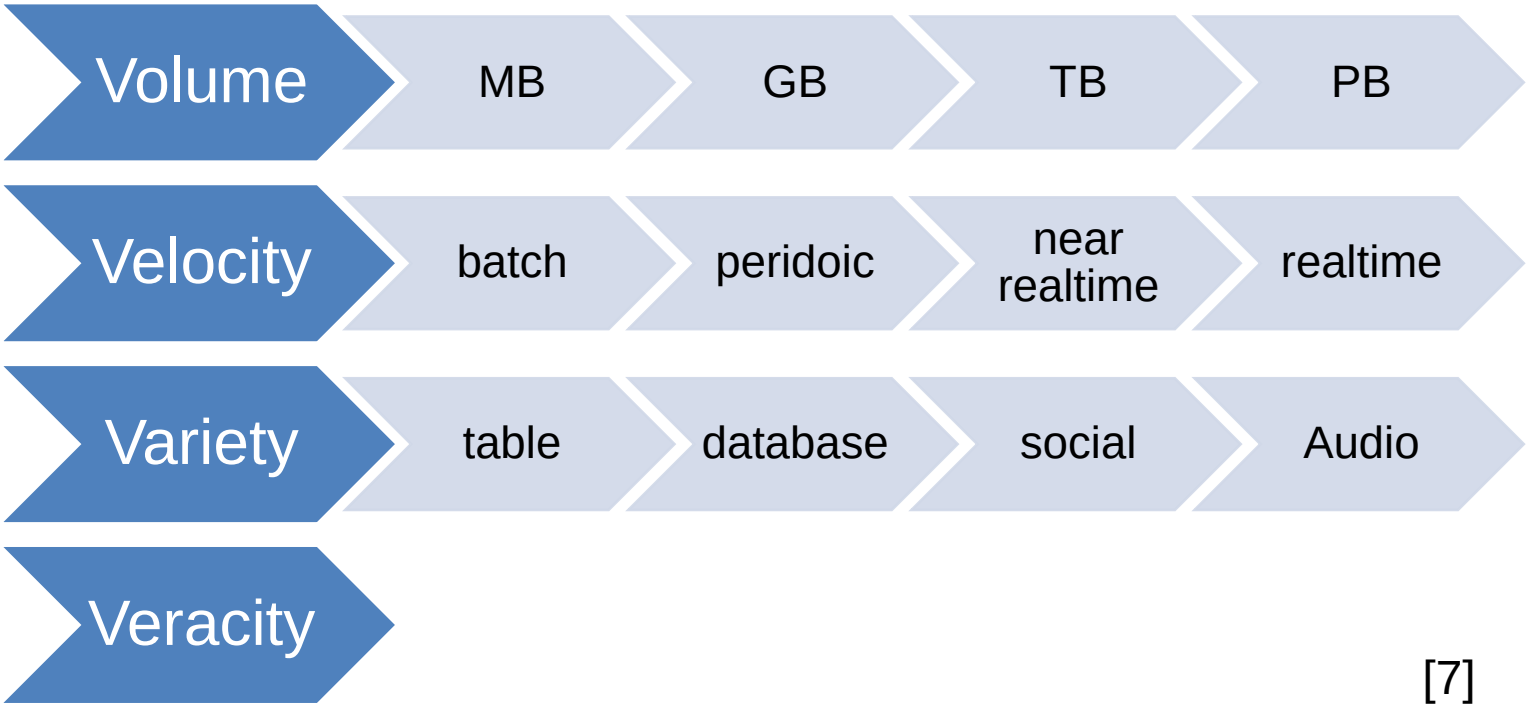
- Wiederholung – Aspekte von Big Data
- Datenverarbeitungsprozess
- TextMining
- Aktuelle Paper
  - Identification of Live News Events Using Twitter
  - Open Domain Event Extraction From Twitter
- Ausblick
- Konferenzen

# Wiederholung – Big Data



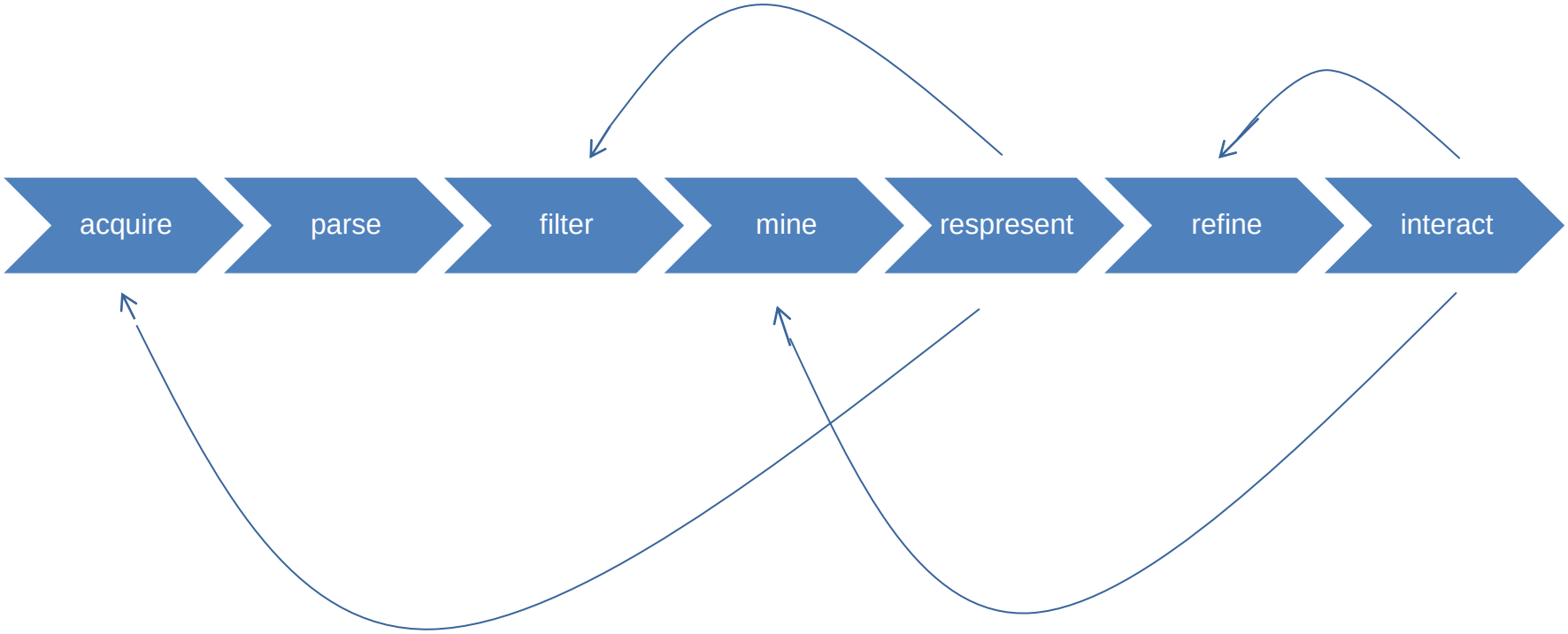

[7]

# Wiederholung – Big Data




[7]

# Datenverarbeitungsprozesse




angeleht an [5]

# Text Mining

- In Text enthaltenes Wissen extrahieren
- Unter Nutzung von
  - Statistischen Verfahren
  - Musterbasierten Verfahren

- Anwendungen
  - Klassifikation
  - Clustering
  - Information Extraction

# Text Mining und Twitter

- Herausforderungen
  - Redundante Informationen
  - Uninteressante Informationen (Alltägliches)
  - Umgangssprache, Rechtschreibung
  - Fehlen von Kontext
  - Zuverlässigkeit/Glaubwürdigkeit
- Chancen
  - Kurze Tweets
  - Keine komplexe Struktur

# Identification of Live News Events Using Twitter [4], Jackoway et al.

- Fragestellungen
  - Welche Tweets sind für die Masse interessant?
  - Welche Tweets betreffen ein reales Ereignis?
  - Wie Zuverlässig sind die Informationen?
- Verbindung von traditionellen Zeitungsartikeln und Twitter
  - Zeitung → Extrahieren von Events
  - Twitter → live-updates zu Events

# Identification of Live News Events Using Twitter [4], Jackoway et al.

- Basiert auf NewsStand
  - Zukünftige Ereignisse in Zeitungsartikeln finden
  - Extrahieren von Keywords zu Ereignissen
    → charakteristische Merkmale
- Live-Updates durch Tweets
  - Input: Tweets, die min. 1 Keyword enthalten
  1. Grobfilterung → Junk/News
  2. Tweet einem Event zuordnen oder verwerfen
     - Winkel zwischen Vektoren (Cosinus-Maß)

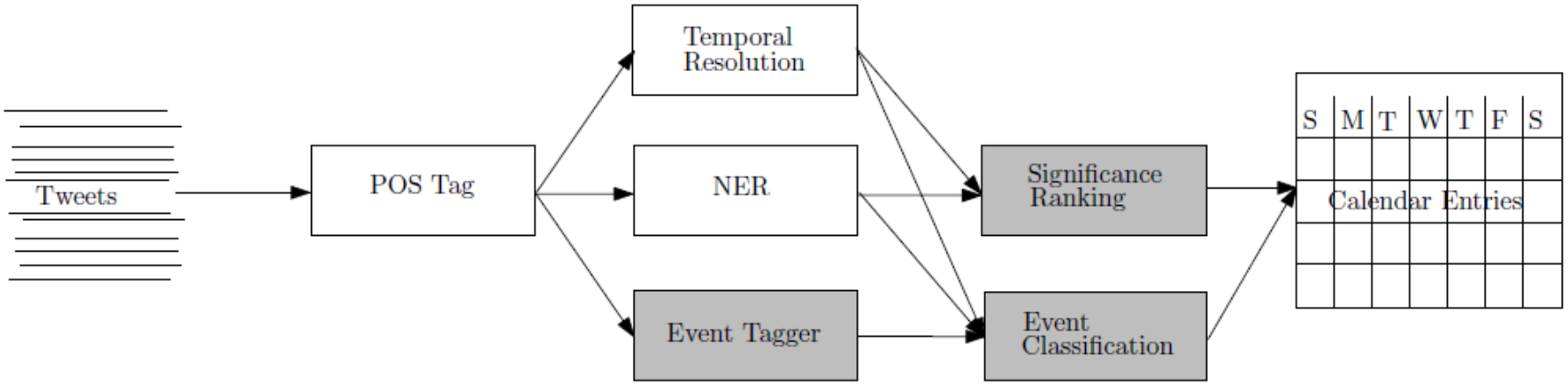
# Open Domain Event Extraction From Twitter [2], Ritter et al.

- 4-Tupel aus Tweet extrahieren
  - Named Entity
  - Event Phrase
  - Date
  - Type

| Entity | Event Phrase | Date | Type |
|---|---|---|---|
| Steve Jobs | died | 10/6/11 | DEATH |
| iPhone | announcement | 10/4/11 | PRODUCTLAUNCH |
| GOP | debate | 9/7/11 | POLITICALEVENT |
| Amanda Knox | verdict | 10/3/11 | TRIAL |

[2]

# Open Domain Event Extraction From Twitter [2 ], Ritter et al.




[2]

# Ausblick

- Zunächst Twitter
  - Intelligente Formel 1 – Tisch
  - Master Next Media
- Später?
  - Evtl. Zusammenarbeit Signal Iduna

# Konferenzen

- KDD
  International Conference on Knowledge Discovery and Data Mining
- WSDM
  International Conference on Web Search and Data Mining
- WWW
  Word Wide Web Conference
- (ISC Big Data)
- HT ACM Conference on Hypertext and Social Media

# Quellen – Twitter Textmining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- [3] Takeshi Sakaki, Makoto Okazaki, and Yutaka Matsuo. 2010. Earthquake shakes Twitter users: real-time event detection by social sensors. In *Proceedings of the 19th international conference on World wide web* (WWW '10). ACM, New York, NY, USA, 851-860. DOI=10.1145/1772690.1772777 http://doi.acm.org/10.1145/1772690.1772777
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- [6] Alan Ritter, Sam Clark, Mausam, and Oren Etzioni. 2011. Named entity recognition in tweets: an experimental study. In *Proceedings of the Conference on Empirical Methods in Natural Language Processing* (EMNLP '11). Association for Computational Linguistics, Stroudsburg, PA, USA, 1524-1534.

# Quellen 2


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- [8] AnHai Doan, Jeffrey F. Naughton, Raghu Ramakrishnan, Akanksha Baid, Xiaoyong Chai, Fei Chen, Ting Chen, Eric Chu, Pedro DeRose, Byron Gao, Chaitanya Gokhale, Jiansheng Huang, Warren Shen, and Ba-Quy Vuong. 2009. Information extraction challenges in managing unstructured data. *SIGMOD Rec.* 37, 4 (March 2009), 14-20. DOI=10.1145/1519103.1519106 http://doi.acm.org/10.1145/1519103.1519106
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