Reviewing in
NLP – A
Tutorial

Kevin
Bretonnel
Cohen, Karën
Fort, Margot
Mieskes,
**Aurélie
Névéol**

Introduction

Background

The Actual
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Reviewing a
specific
section

Ethics and
reviewing

Reviewing in NLP – A Tutorial

Kevin Bretonnel Cohen, Karën Fort, Margot Mieskes,
Aurélie Névéol

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Limsi CNRS université PARIS-SACLAY

Overview

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Who am I?
Aurélie Névéol

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- Expertise in biomedical NLP
- Reviewing Approach: "Come with an open mind"
- Biases:
    - Strong preference for IMRaD structured papers
    - Interest in evaluation beyond performance measures
    - ...

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Ethics in reviewing

A two way street:

1. Provide fair, balanced, ethical reviews
2. Hold authors accountable for their research

Introductory story

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story images source: https://www.bbc.com/news/amp/science-environment-34910954

Introductory story

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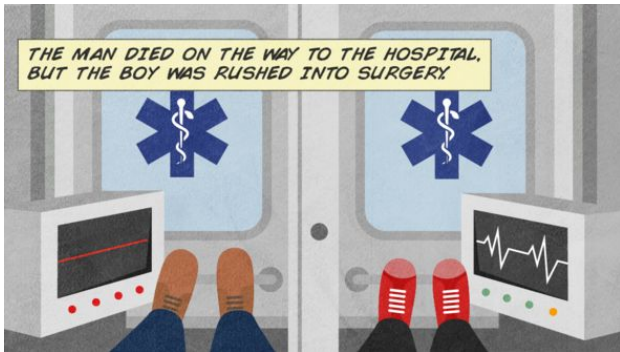Fort, Margot
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Why this statement?

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- Some answers:
  - The son is adopted (biological father and adoptive father)
  - Same sex parents (two fathers)
  - The surgeon is also a catholic priest
  - ...
  - Wait! Could the surgeon be... the MOTHER?

- Why isn't the statistically most likely answer always given first?
  - **Implicit Bias: surgeon = man**

Implicit bias

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"Bias that results from the tendency to process information based on unconscious associations and feelings, even when these are contrary to one's conscious or declared beliefs"

It doesn't only happen to other people!

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Project Implicit®

- Project Implicit
  - A research project that investigates social processes involved in social interactions
  - Covers many aspects including social attitudes, health
  - Offers a set of "Implicit Association Tests" (IAT) - free for non commercial use

Exercice: take a test

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https://implicit.harvard.edu/implicit/takeatest.html

- Suggested: Gender-Science (will be randomly positioned in left side menu)

- Requires about 10/15 minutes, including filling preliminary question forms and test

- Measures reflex associations between words, ideas, pictures

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Results of a sample test: Gender-Science IAT
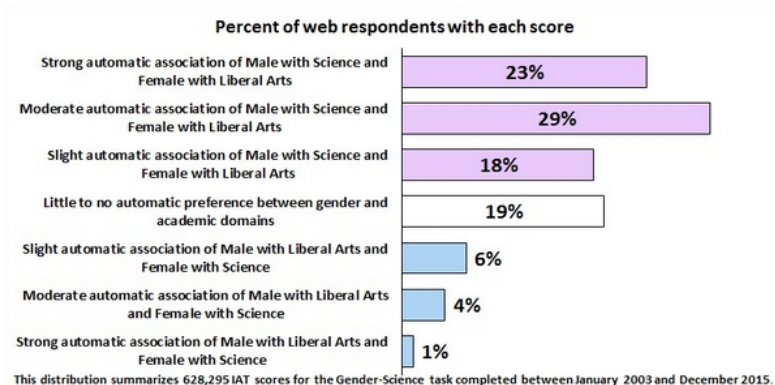
source: *Xu, Kaiyuan et al. "Project Implicit Demo Website
Datasets." OSF, 17 Mar. 2020. Web.*

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How can we handle our biases?
An open question...

+ Bias awareness can induce guilt and motivation to change behaviour

Parker LR, Monteith MJ, Moss-Racusin CA, Van Camp AR, Promoting concern about gender bias

with evidence-based confrontation, J Exp Soc Psychol. 2018;74:8-23

- Stereotype prevalence can create bias reinforcement (everybody else is doing it, so why can't we?)

Duguid MM, Thomas-Hunt MC. Condoning stereotyping? How awareness of stereotyping

prevalence impacts expression of stereotypes. J Appl Psychol. 2015;100(2):343-359.

How can we handle our biases?
An open question...

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Qualify your comments where applicable "I am [not] an expert on topic XYZ, and here is my take"

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🔍 Biases that may affect reviewing

- Gender
- Seniority
- Geography/institution
- Reputation

```
Kaatz A, Gutierrez B, Carnes M. Threats to objectivity
in peer review:  the case of gender.  Trends in
pharmacological sciences.  2014;35(8):371-373.

Okike K, Hug KT, Kocher MS, Leopold SS. Single-blind
vs Double-blind Peer Review in the Setting of Author
Prestige.   JAMA. 2016 Sep 27;316(12):1315-6.
```

Reviewing models: a balancing act
reviewer accountability *vs.* bias effect

Open Review   Papers, Reviews and Identities are visible to all parties

Single-Blind   Author is known to Reviewer – Reviewer remains unknown to Author

Double-Blind   Author is unknown to Reviewer and Reviewer is unknown to Author

Pros and Cons

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Ethics and
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open

- Reviewer is accountable
- Authors do not need to withhold scientific content to preserve anonymity
- Reviewer may withhold criticism or face retaliation
- Vulnerable to all biases

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Pros and Cons

single-blind

- Allows the reviewer to be fully honest
- Authors do not need to withhold scientific content to preserve anonymity
- Vulnerable to all biases mentioned above

Pros and Cons

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double-blind

- Avoids various biases
- Allows the reviewer to be fully honest
- Reviewer is not accountable
- Authors may withhold scientific content to preserve anonymity

- AC/editor's role in the reviewing process
- Secondary reviewers should be declared
- Feedback mechanisms are essential

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Holding the authors accountable

- Check for (self-)plagiarism
- Check for salami slicing
- Check for reproducibility material
- Check for ethical concerns
  - data confidentiality
  - research process

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Organizing reviewing and ethics
Making the sausage

- How do you define and handle conflicts of interest??
  - Are organizers allowed to submit?
- Who should see reviewers' names?
- Organizing the discussion between reviewers
- Transparency of the process:
  - AC names are mentioned somewhere
  - Reviewing process is detailed somewhere
- Rebuttal period / Authors' response
- Meta reviews

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Characteristics of Various Venues
(with changes over the years)

Venue	Blind	Supplements / appendix	Area Chair	Response Period
*ACL	Double	yes	identified	sometimes
EMNLP	Double	yes	identified	yes
IJCAI	Double	no	internal	yes
AAAI	Double	no	internal	yes
LREC	Single	no	no	no
Swisstext	Double	no	internal	no
TALN	Double	no	internal	no
AMIA	Single	no	internal	no

Where to go for more information?

- Quantitative studies of reviewing and of scientific publication:
  - Can authors and reviewers identify each other?

    > Névéol A, Fort K, Hwa R. Report on EMNLP Reviewer Survey. Association
    > for Computational Linguistics. July 26, 2017.
    >
    > Ritchie AI, Polkey MI, Donaldson GC, Wedzicha JA. Is Peer Review Still
    > Anonymous? Am J Respir Crit Care Med. 2018 Jul 15;198(2):278-280.

- Bias in reviewing/publishing and its effects:

  > Tamblyn R, Girard N, Qian CJ, Hanley J. Assessment of potential bias in research
  > grant peer review in Canada. CMAJ. 2018 Apr 23;190(16):E489-E499.
  >
  > Silbiger NJ, Stubler AD. Unprofessional peer reviews disproportionately harm
  > underrepresented groups in STEM. PeerJ. 2019 Dec 12;7:e8247.

- How to review - editors and Chairs take:

  > *ACL/COLING/EMNLP Chairs Blog.
  >
  > Bourne PE, Korngreen A (2006) Ten Simple Rules for Reviewers. PLoS Comput Biol
  > 2(9): e110.

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Closing remarks
Reviewing the review tutorial

- It's been a bumpy ride
- Thank you for your attendance
- Your feedback is welcome
- See (hear) you during the live session!

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We would love to hear from you!

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kevin.cohen@gmail.com
karen.fort@sorbonne-universite.fr
margot.mieskes@h-da.de
aurelie.neveol@limsi.fr