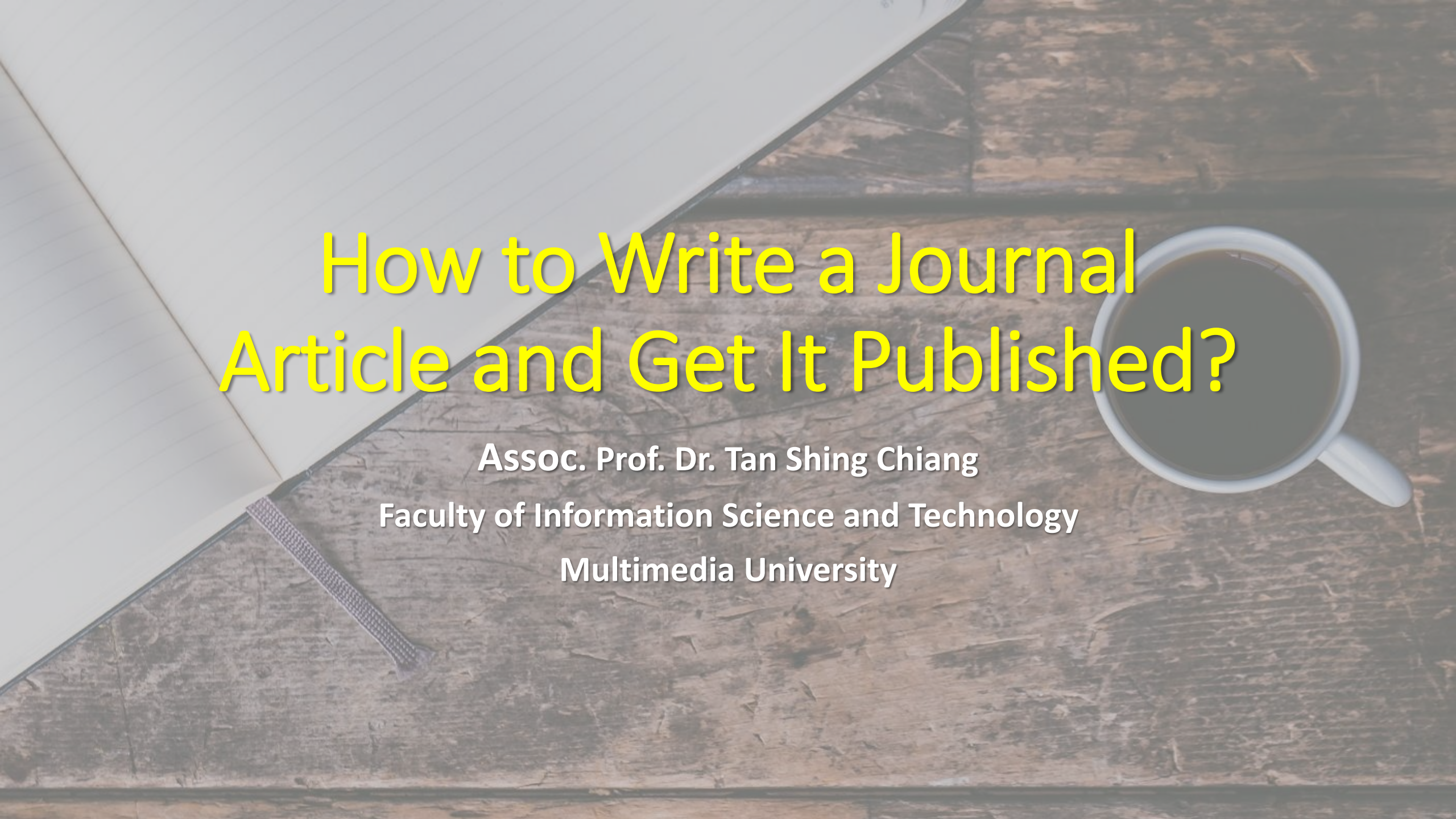


How to Write a Journal Article and Get It Published?

Assoc. Prof. Dr. Tan Shing Chiang

Faculty of Information Science and Technology

Multimedia University

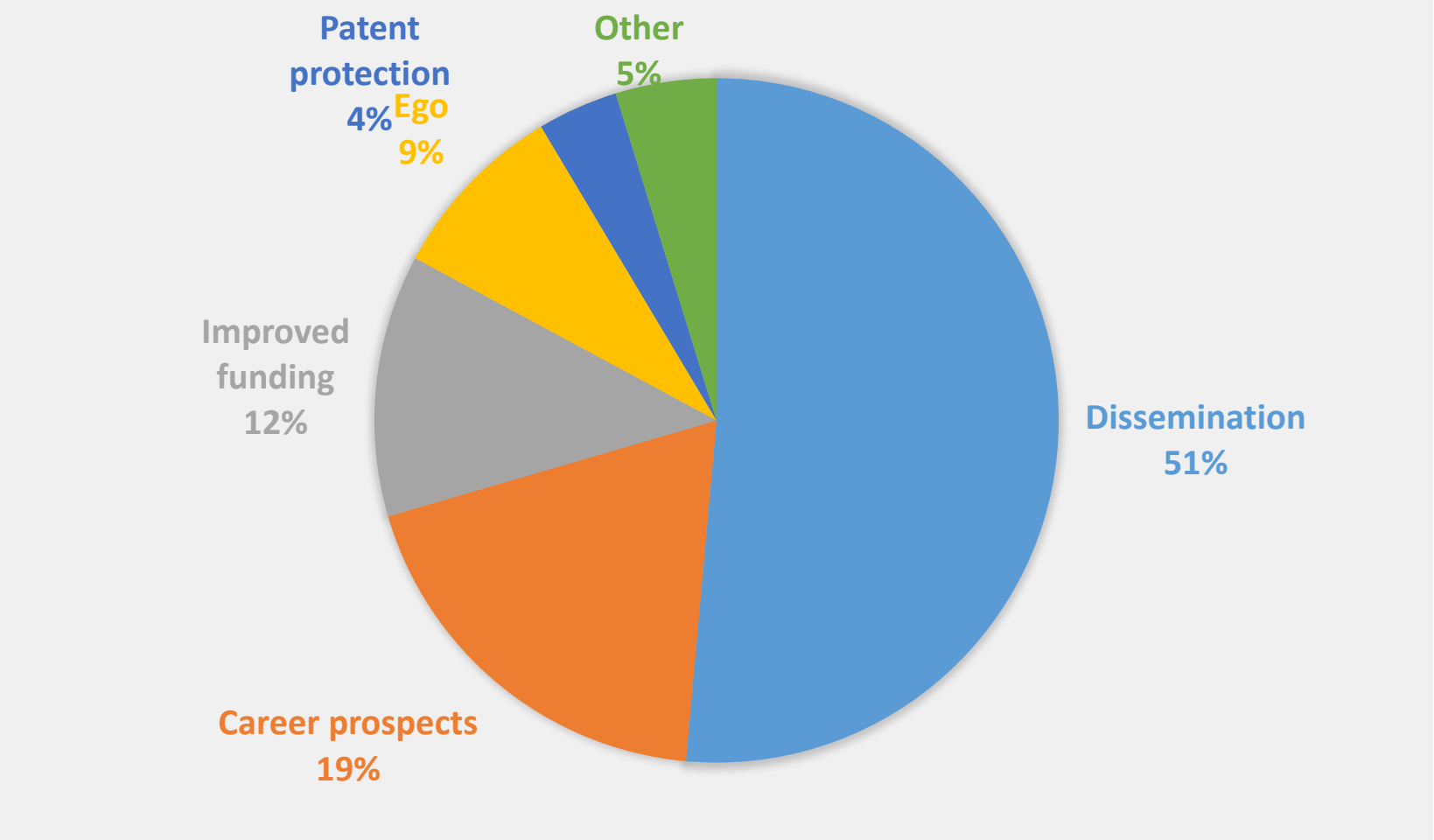
Today Sharings

How to Write a Journal Article?

How to Publish It?

Why Publish a Journal Article?

Motivations to Publish Journal Papers… A Survey Based on the 1st Choice



Source: Bryan Coles (ed.) The STM Information System in the UK, BL Report 6123, Royal Society, BL, ALPSP, 1993

Author's Interests and Expectations

- Quality, speed, peer review essentials
  - ✓Review standard
  - ✓Review speed
  - ✓Journal reputation
- Editor/board, publication services
- Publish more
- Wider dissemination

Reader's Interests and Expectations

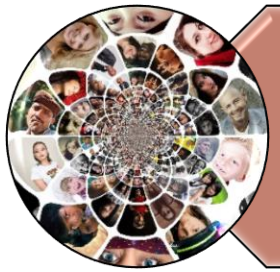
- High quality papers
- Rapid, up-to-date information
- Convenient format
- Easy access
- Preferably free

Types of a Journal Article

Original Research

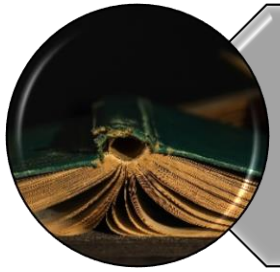
Clinical Trial

Review Article



Clinical Case Study

Book Review



Article of Opinion

Source: https://www.editage.com/insights/6-article-types-that-journals-publish-a-guide-for-early-career-researchers

Types of a Journal Article

Original Research	Primary literature: Detailed studies about original research
	Hypothesis, background study, methods, results, interpretation of findings, and a discussion of possible implications
	Need an investment of time (paper length: 3000 to 6000 words)

Example: Original Research

Journal of Biomedical Informatics 105 (2020) 103411

Contents lists available at ScienceDirect

Journal of Biomedical Informatics

journal homepage: www.elsevier.com/locate/yjbin

Deep ensemble learning for Alzheimer's disease classification

Ning An[a,b], Huitong Ding[a,b,c], Jiaoyun Yang[a,b,*], Rhoda Au[c,d], Ting F.A. Ang[c]

[a] Key Laboratory of Knowledge Engineering with Big Data of Ministry of Education, Hefei University of Technology, Hefei, China
[b] School of Computer Science and Information Engineering, Hefei University of Technology, Hefei, China
[c] School of Medicine, Boston University, Boston, USA
[d] School of Public Health, Boston University, Boston, USA

ARTICLE INFO

Keywords:
Deep learning
Ensemble learning
Stacking
Classification
Alzheimer's disease

ABSTRACT

Ensemble learning uses multiple algorithms to obtain better predictive performance than any single one of its constituent algorithms could. With the growing popularity of deep learning technologies, researchers have started to ensemble these technologies for various purposes. Few, if any, however, have used the deep learning approach as a means to ensemble Alzheimer's disease classification algorithms. This paper presents a deep ensemble learning framework that aims to harness deep learning algorithms to integrate multisource data and tap the 'wisdom of experts'. At the voting layer, two sparse autoencoders are trained for feature learning to reduce the correlation of attributes and diversify the base classifiers ultimately. At the stacking layer, a nonlinear feature-weighted method based on a deep belief network is proposed to rank the base classifiers, which may violate the conditional independence. The neural network is used as a meta classifier. At the optimizing layer, over-sampling and threshold-moving are used to cope with the cost-sensitive problem. Optimized predictions are obtained based on an ensemble of probabilistic predictions by similarity calculation. The proposed deep ensemble learning framework is used for Alzheimer's disease classification. Experiments with the clinical dataset from National Alzheimer's Coordinating Center demonstrate that the classification accuracy of our proposed framework is 4% better than six well-known ensemble approaches, including the standard stacking algorithm as well. Adequate coverage of more accurate diagnostic services can be provided by utilizing the wisdom of averaged physicians. This paper points out a new way to boost the primary care of Alzheimer's disease from the view of machine learning.

Table 5
The precision of base classifiers in three feature spaces. (A) normalized original space, (B) 20-dimensional space learned by SAE, (C) 30-dimensional space learned by SAE.

Classifier	Feature space		
	A	B	C
Bayes Nets	76.1%	73.9%	73.1%
Filtered Classifier	79.1%	75.5%	75.1%
Hoeffding Tree	79.1%	76.1%	74.6%
Iterative Classifier Optimizer	79.8%	76.1%	76.4%
J48	78.9%	74.7%	76.2%
Logistic Regression	80.2%	77.3%	78.0%
LogitBoost	80.1%	76.1%	76.4%
Random Committee	82.7%	75.2%	75.1%
Random Forest	80.1%	80.9%	78.1%
Random SubSpace	81.8%	75.8%	77.2%
REPTree	80.4%	76.3%	76.0%
AdaBoostM1	78.5%	77.1%	75.8%
Multilayer Perception	80.3%	79.5%	78.3%
Naive Bayes	71.5%	73.8%	75.4%
Stacking	60.2%	61.3%	60.5%
Voted Perceptron	78.3%	77.5%	78.1%

Table 6
Recall rate of base classifiers in three feature spaces. (A) normalized original space, (B) 20-dimensional space learned by SAE, (C) 30-dimensional space learned by SAE.

Classifier	Feature space		
	A	B	C
Bayes Nets	75.6%	71.4%	72.3%
Filtered Classifier	79.3%	75.4%	75.4%
Hoeffding Tree	78.5%	76.0%	74.7%
Iterative Classifier Optimizer	79.9%	75.4%	76.3%
J48	79.1%	75.1%	75.8%
Logistic Regression	80.5%	77.3%	78.1%
LogitBoost	79.9%	75.4%	76.3%
Random Committee	82.8%	75.6%	75.5%
Random Forest	82.8%	84.9%	77.5%
Random SubSpace	81.9%	76.2%	77.4%
REPTree	80.4%	76.0%	75.9%
AdaBoostM1	76.1%	74.5%	75.5%

Table 7
F1-measure of base classifiers in three feature spaces. (A) space, (B) 20-dimensional space learned by SAE, (C) 30 learned by SAE.

Classifier	Feature space	
	A	B
Bayes Nets	75.8%	71.9
Filtered Classifier	79.2%	75.4
Hoeffding Tree	78.7%	76.0
Iterative Classifier Optimizer	79.9%	75.6
J48	79.0%	74.7
Logistic Regression	80.2%	77.3
LogitBoost	79.9%	75.6
Random Committee	82.7%	75.3
Random Forest	82.7%	82.9
Random SubSpace	81.8%	75.8
REPTree	80.4%	76.1
AdaBoostM1	76.1%	74.9
Multilayer Perception	80.3%	79.5
Naive Bayes	71.4%	72.0
Stacking	62.2%	60.3
Voted Perceptron	78.1%	77.5

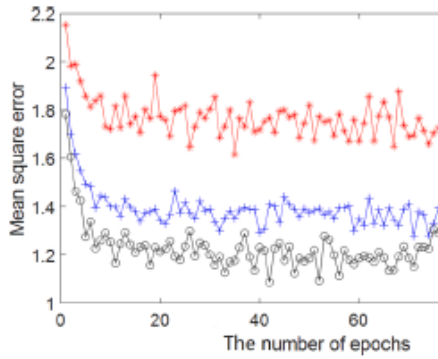


Fig. 4. The performance comparison of SAEs with 10, 20, x-axis indicates the number of epochs, and the y-axis indica corresponding epoch.

Types of a Journal Article

Review Article	Secondary literature: critical and constructive analysis based on existing articles in a field
	Contents: summary, analysis, and comparison, gaps or problems and recommendations for future research

Example of Review Article

Computational and Structural Biotechnology Journal xxx (xxxx) xxx

ELSEVIER

COMPUTATIONAL AND STRUCTURAL BIOTECHNOLOGY JOURNAL

journal homepage: www.elsevier.com/locate/csbj

Review

Deep learning methods in protein structure prediction

Mirko Torrisi [b], Gianluca Pollastri [b], Quan Le [a,*]

[a] Centre for Applied Data Analytics Research, University College Dublin, Ireland
[b] School of Computer Science, University College Dublin, Ireland

ARTICLE INFO

Article history:
Received 15 October 2019
Received in revised form 19 December 2019
Accepted 20 December 2019
Available online xxxx

Keywords:
Deep learning
Protein structure prediction
Machine learning

ABSTRACT

Protein Structure Prediction is a central topic in Structural Bioinformatics. Since the '60s statistical methods, followed by increasingly complex Machine Learning and recently Deep Learning methods, have been employed to predict protein structural information at various levels of detail. In this review, we briefly introduce the problem of protein structure prediction and essential elements of Deep Learning (such as Convolutional Neural Networks, Recurrent Neural Networks and basic feed-forward Neural Networks they are founded on), after which we discuss the evolution of predictive methods for one-dimensional and two-dimensional Protein Structure Annotations, from the simple statistical methods of the early days, to the computationally intensive highly-sophisticated Deep Learning algorithms of the last decade. In the process, we review the growth of the databases these algorithms are based on, and how this has impacted our ability to leverage knowledge about evolution and co-evolution to achieve improved predictions. We conclude this review outlining the current role of Deep Learning techniques within the wider pipelines to predict protein structures and trying to anticipate what challenges and opportunities may arise next.

Types of a Journal Article

Book Review	Insight and opinion on recently published scholarly books
	Short articles and less time-consuming

Example of Book Review

Ecological Economics 156 (2019) 431–432

Contents lists available at ScienceDirect

Ecological Economics

journal homepage: www.elsevier.com/locate/ecolecon

Book Reviews

In Defense of Degrowth: Opinions and Minifestos, by Giorgos Kallis, edited by Aaron Vansintjan, Uneven Earth Press, 2018.

1. Introduction

This article provides a review of the recently published book, 'In defense of degrowth: opinions and minifestos' (Kallis, 2018). The essays contained within explore the theme of degrowth, including its political roots, economic and social justifications, and how it might be realised through a combination of policy initiatives and community action. Degrowth can be described as an "equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions" (Schneider et al., 2010). Throughout the book Kallis criticises the technocratic nature of other environmental movements and the failures of the political left to escape the imaginary of economic growth. Kallis' vision for realising degrowth is both grounded - exploring examples of existing solidarity economies - and aspirational, laying out a bold set of policy proposals for the new left in Spain. Considering the book through a political-ecological lens, this review will focus on the following themes: 1) moving from a technocratic to a political environmentalism; 2) degrowth as driven by social limits, not biophysical ones; and 3) policies fit for a degrowth era.

whether our environmental strategies are consistent with our values as a society (Bryant, 1991).

3. Social Limits Not Biophysical Ones

Degrowth is often proposed as a means to remain within planetary limits. On this topic Kallis takes a nuanced, political stance, diverging from other authors who have written on the subject (Georgescu-Roegen, 1993; Daly and Farley, 2011; Jackson, 2017). He acknowledges arguments that the rapid use of finite stock energy sources, such as fossil fuels, has accelerated economic activity and therefore also the exhaustion of natural resources and the production of high entropy waste. However, he also argues that the existence of flow energy sources, such as solar, may mean there is no *hard* limit to economic activity on the planet (Kallis, 2018, pp. 74). This point is not empirically developed in the book and is somewhat unsupported by the literature, with others in the field arguing that the low 'energy return on energy invested' (EROI) of poor quality fossil fuels and renewable fuel sources will significantly hamper economic growth in the long term (Murphy and Hall, 2011).

However, Kallis argues that the more pressing issue is the *distribution* of the degradation and waste caused by economic activity. Moving the conversation about planetary boundaries towards the issue of social justice draws attention to the uneven distribution of the benefits and dis-benefits generated by economic activity, and the tendency towards cost shifting within a capitalist political-economic system (Martinez-Alier, 2001). This social justice-based justification for degrowth lends

Sources to Identify a Topic

- People
  - Advisor, Students, Collaborator
- Papers
  - Review paper
  - Research paper
- Assigned Tasks
  - Courses
  - Talks
- Fund
  - Emerging topics

Characteristics of a Topic

Interest

- Enhancement from your/other authors' previous work
- Current trend
- Weakness in current research

Workable

- Not too narrow neither too broad

Tips for Completing Your Writing

- Set an outline
- Breakdown writing process
- Set schedule
- Start from whatever part you feel the easiest
- Use word processing to write

Key Elements

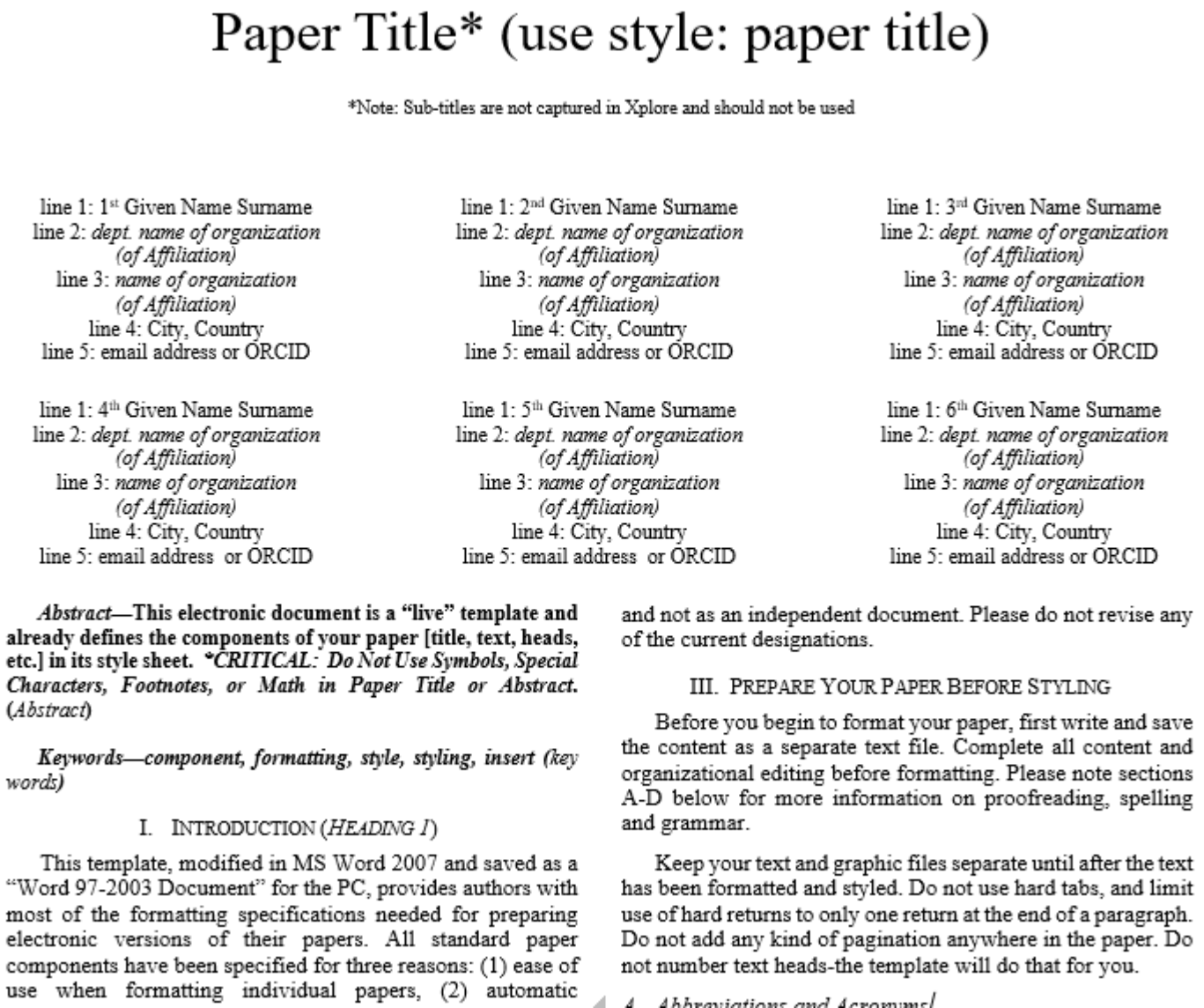
How to Write a Journal Article?

Style and Language

Paper Components

Style and Language

- Refer to the journal's author guide for notes on style
- Get assistance from a colleague to review language of the paper. Sometime, may request for English prove-read service.



Paper Title* (use style: paper title)

*Note: Sub-titles are not captured in Xplore and should not be used

line 1: 1st Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 2nd Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 3rd Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 4th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 5th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 6th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

***Abstract*—This electronic document is a "live" template and already defines the components of your paper [title, text, heads, etc.] in its style sheet. **CRITICAL: Do Not Use Symbols, Special Characters, Footnotes, or Math in Paper Title or Abstract.* (*Abstract*)**

***Keywords—component, formatting, style, styling, insert** (key words)*

I. INTRODUCTION (*HEADING 1*)

This template, modified in MS Word 2007 and saved as a "Word 97-2003 Document" for the PC, provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic

and not as an independent document. Please do not revise any of the current designations.

III. PREPARE YOUR PAPER BEFORE STYLING

Before you begin to format your paper, first write and save the content as a separate text file. Complete all content and organizational editing before formatting. Please note sections A-D below for more information on proofreading, spelling and grammar.

Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you.

A. Abbreviations and Acronyms

Paper Components

Section	Purpose
Title	Reflects contents
Authors	Recognizes those who made intellectual contribution to the research
Abstract	Summarizes briefly problem, the method, the results, and the conclusions
Keywords	Helps to identify the paper through abstracting and indexing services
Introduction	Explains background of research/problem
Methods	Describes how the method(s) is applied
Results	Shows what has been discovered
Discussion	Discusses the implications of the findings
Acknowledgements	Recognizes those who assisted in the research
References	Recognizes previously published work
Appendices (optional)	Provides supplemental data

Title

- Advertisement of the paper
- Specific and concise
- Avoid abbreviation/jargon

Authors

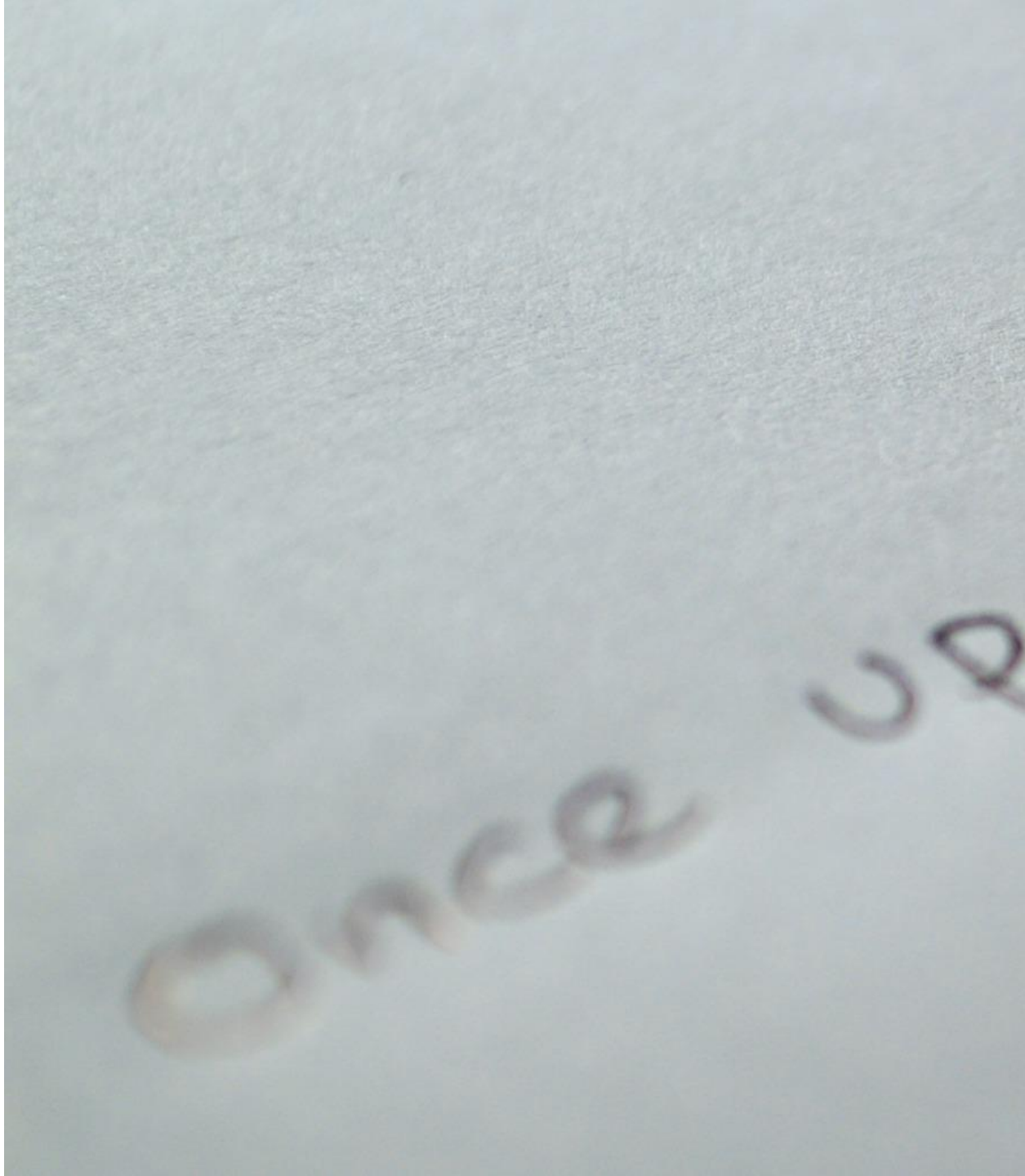
- Those who have made an intellectual contribution to the research
- Normal practice: supervisor as co-author, student as first author
- Accountable for all aspects of the work

Abstract

- A single paragraph (150-250 words)
- First impression
- Summary of the paper

Introduction

- Describe background, problem, motivation
- Present research question, hypothesis
- State contribution of the work
- Highlight relevant previous research - may include literature survey



Literature Survey

- Not a comprehensive review of literature; Only a few major papers
- Try to use primary sources
- Use past tense

Methods

- Provide details for readers to understand and replicate your research
- Explain how do you study the problem, describe the procedure
- Allow readers to evaluate what you have done

Results

- Tables and figures: remember to mention each in the text
- Show new results contributing to the body of scientific knowledge
- Text shows main points from tables/figures
- May combine with discussion

Discussion

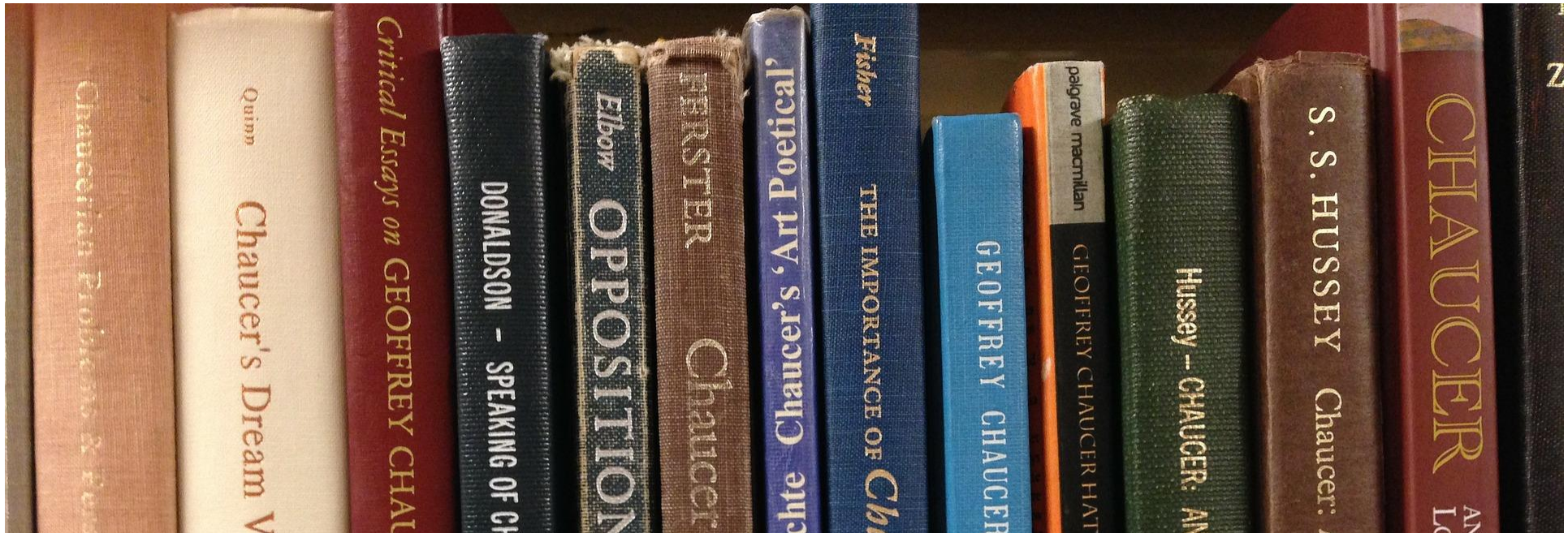
- Start with a summary of main findings
- Answer the question(s)/hypothesis stated in the introduction
- Indicate strength/weakness of the study
- Relationship to findings of other research: similar/different and reasons, implications

Conclusion

- Describe what your results mean in context of what was already known about the subject
- Indicate how the results relate to expectations and to the literature previously cited
- Explain how the research has moved the body of scientific knowledge forward
- Suggestions for further work

References

- Various format - refer to notes for authors for the specific journal
- Software - EndNote, Reference Manager, RefWorks, Zotero



Key Elements

How to Publish a Journal Paper?

Ethical Issues

Journal Selection

Peer Review Process

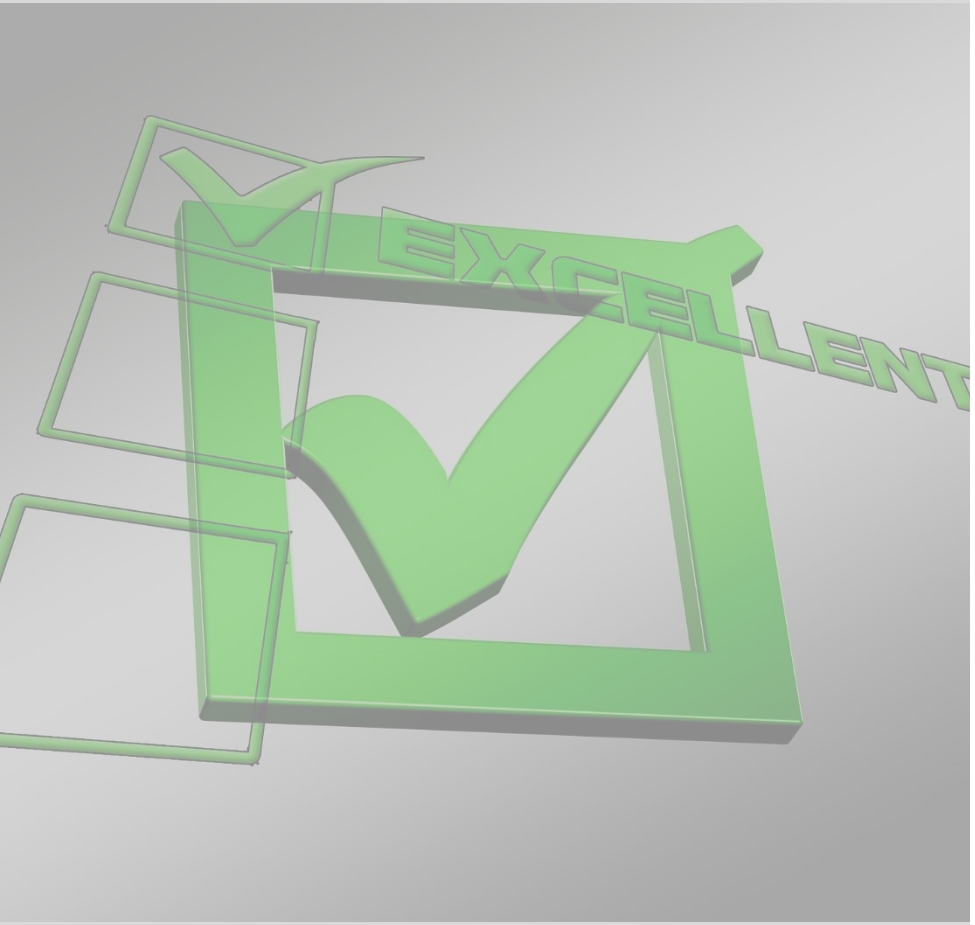
Ethical Issues

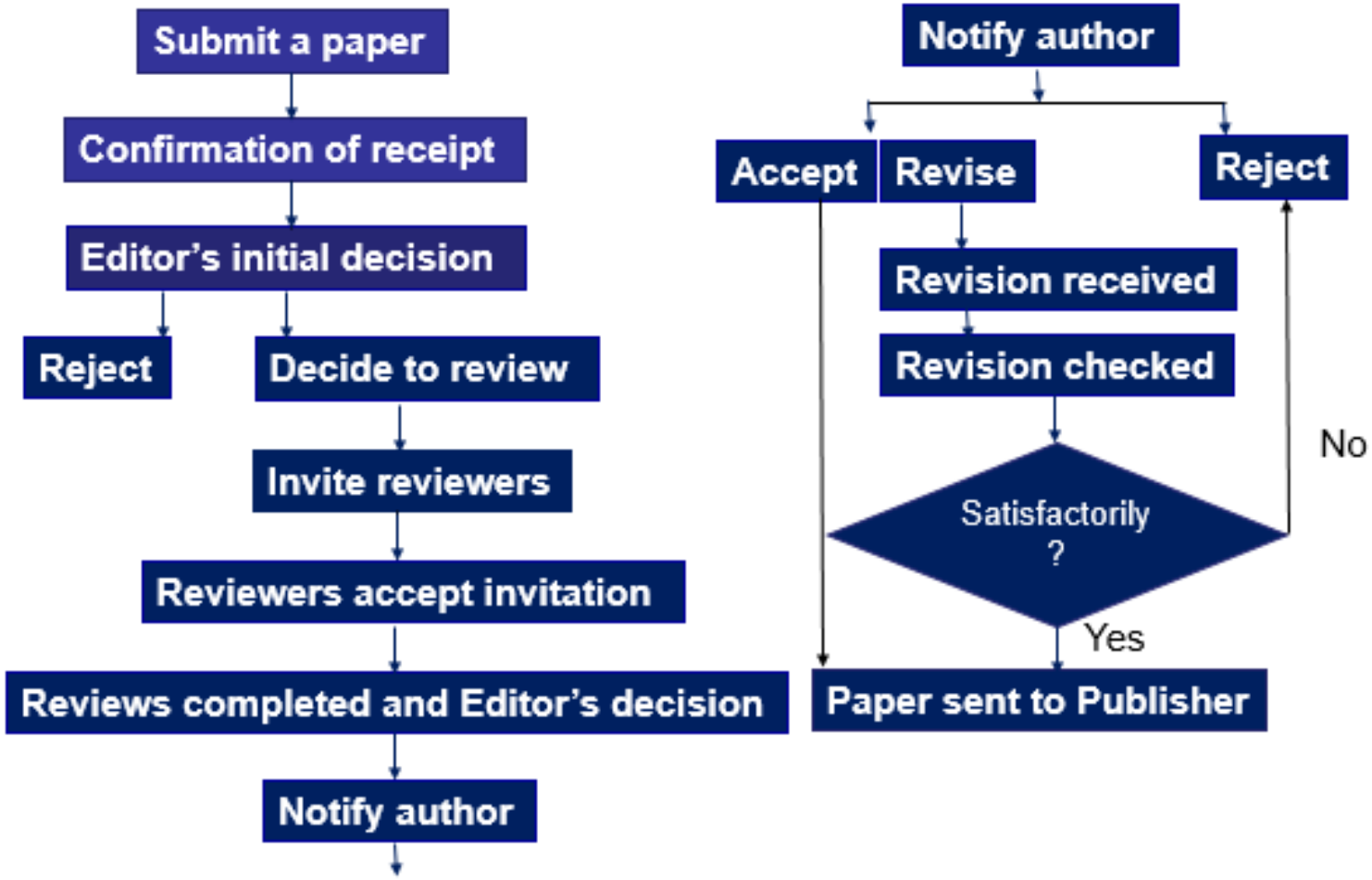
- Disclosure of Conflict of Interest
- Acknowledgment: funding resources
- Artwork/Image guidelines (esp for image-based research)
- Supplemental information (software, datasets, audio, movies, videos)

Journal Selection (Authors' Viewpoints)

- Citation Databases (Web of Science by Clarivate Analytics, SCOPUS by Elsevier, Google Scholar, MyJurnal, etc)
- Journal Reputation (e.g., high impact journals in WOS, scientific journal rankings in Scimago)
- Journal target's audience (journal scope/aim, example of sharing https://www.springer.com/gp/authors-editors/journal-author/how-to-choose-a-target-journal/1396)
- Editorial standard (e.g., https://www.nature.com/jhh/authors-and-referees/editorial-process)
- Publication speed
- International diversity/coverage
- Open access vs conventional journal?

Peer Review Process: An Example





Q&A

References

- https://www.scribd.com/presentation/385947404/Authorship-Skills-How-to-Write-a-Scientific-Paper-06-2008
- https://www.springernature.com/gp/authors/campaigns/writing-a-manuscript

Acknowledgement

All images in these slides are downloaded (for free usage) from

- https://pixabay.com/
- https://www.flaticon.com/
- https://www.busrt.shopify.com/