Can AI Infringe Moral Rights of Authors and Should We Do Anything About it: An Australian Perspective

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Abstract

While artificial intelligence technologies (AI), such as machine learning (ML), hold significant potential for the economy and social wellbeing, it is unclear to which extent copyright laws stimulate or impede the development of these promising technologies. The unauthorised use of copyright-protected works in ML process and its possible implications on *economic rights* of authors have been previously explored, however, the implications of such use on the *moral rights* of authors – the rights of attribution and integrity – have not been examined. This paper, by focusing on Australia as a case study, explores whether the use of works as training data in ML process could amount to the infringement of moral rights of authors and, if so, whether law reform in the area is needed.

Keywords: copyright, moral rights, artificial intelligence, machine learning, proportionality

I. Introduction

Artificial intelligence (AI) is increasingly used in a variety of industries and sectors, from recommendation algorithms online[1] and AI-generated songs, paintings and poems[2] to law enforcement[3] and healthcare.[4] Experts suggest that by 2030 AI will contribute US$15.7 trillion to the world economy,[5] with governments and businesses around the world heavily investing in AI technologies.[6]

Policy makers and stakeholders have been discussing legal and ethical issues surrounding AI technologies, both inside Australia and overseas.[7] One of the legal areas that has been debated in multiple national and international policy fora is the relationship between AI and copyright laws.[8] One of the questions asked is whether the use of works protected by copyright in the machine learning (ML) process constitutes copyright infringement.[9] As a result of these discussions, the European Union (EU) has adopted copyright exceptions covering commercial and non-commercial text and data mining (TDM) activities that include the use of copyright-protected material in ML.[10] Previously, a similar – though narrower –

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[1] Zeinep Tufekci, 'How Recommendation Algorithms Run the World', *Wired* (22 April 2019), https://www.wired.com/story/how-recommendation-algorithms-run-the-world/.
[2] See, e.g., Next Rembrandt project at www.nextrembrandt.com; see also Courtney White, Rita Matulionyte, 'Artificial Intelligence Painting a Bigger Picture for Copyright Ownership', (2020) 30 *Australian Intellectual Property Journal* 224, 224.
[3] Asha Barbaschow, 'AFP used Clearview AI facial recognition software to counter child exploitation', *ZDnet* https://www.zdnet.com/article/afp-used-clearview-ai-facial-recognition-software-to-counter-child-exploitation/
[4] Hafizah Osman, 'New AI tech reshapes skin cancer detection', *Healthcareit* (30 Jan 2019), https://www.healthcareit.com.au/article/new-ai-tech-reshapes-skin-cancer-detection
[5] PWC, The macroeconomic impact of artificial intelligence, February 2018 https://www.pwc.co.uk/economic-services/assets/macroeconomic-impact-of-ai-technical-report-feb-18.pdf
[6] Teich, David, ‚Governments and Artificial Intelligence, Policy and Investment', Forbes (4 December 2020), https://www.forbes.com/sites/davidteich/2020/12/04/governments-and-artificial-intelligence-policy-and-investment/?sh=6a4012555add.
[7] *E.g.* Australian AI Ethics Framework, https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework; European Ethics Guidelines for Trustworthy AI, https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai.
[8] See e.g. UK Government consultation on Artificial Intelligence and Intellectual Property https://www.gov.uk/government/consultations/artificial-intelligence-and-intellectual-property-call-for-views, European Parliament Resolution of 20 October 2020 on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI)); US Patent and Trademark Office, Public Views on Artificial Intelligence and Intellectual Property (October 2020), https://www.uspto.gov/sites/default/files/documents/USPTO_AI-Report_2020-10-07.pdf; the WIPO Conversation on Artificial Intelligence and Intellectual Property, www.wipo.org.
[9] See, e.g. Rita Matulionyte, 'Australian Copyright Law Impedes the Development of Artificial Intelligence: What Are the Options?' (2021) *52*(4) *IIC-International Review of Intellectual Property and Competition Law* 417-443.
[10] See Arts. 3 and 4 of the *Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC*, L 130, 17 May 2019 (Digital Single Market Directive).

TDM exception was introduced in the United Kingdom (UK). [11] In Australia, the TDM exception was proposed by the Australian Law Reform Commission (ALRC) as early as 2014,[12] however the policy discussion about the need and possible nature of the exception is still ongoing. [13]

What has been largely missing from these debates is the role of moral rights in the AI context, namely, whether the use of works as training data in the ML process could infringe authors' or performers' moral rights. Works of specific authors have been used to train AI modules which then generated new works very similar in style with the pre-existing works comprising the training datasets. A famous example is the NextRembrandt project where an AI module was trained with the paintings of the Dutch artist Rembrandt Harmenszoon van Rijn and then produced an original Rembrandt-style painting.[14] As another example, a YouTuber Funk Turkey, a fan of the Australian music band AC/DC, scraped AC/DC lyrics from Genius Lyrics Database, and fed them into an AI bot 'Markov Chain'. The bot then created a new AC/DC-style song 'Great Balls'.[15] Leaving aside the infringement of economic rights of authors that has been explored in other papers,[16] the question arises whether moral rights of authors (or performers) could be infringed in such situations.

As another example, creative works have also been used to train algorithms that produce outputs other than creative works. For instance, a US company Clearview used three billion photographs scraped from social media sites to train a face recognition technology which then was used or trialled by law enforcement authorities in the US, Australia and elsewhere.[17] Further, Google used 11,000 romance novels initially scraped from the self-publishing site Smashwords.com in order to train algorithms behind the Google Assistant service.[18] Could

[11] *UK Copyright, Patent and Design Act (1988),* s 44B.
[12] Australian Law Reform Commission (ALRC), *Copyright and the Digital Economy* (Final Report 122, 2014).
[13] See Australian Government, *Copyright Modernization Consultation*, https://www.communications.gov.au/have-your-say/copyright-modernisation-consultation.
[14] See NextRembrandt Project, available at www.nextrembrandt.com.
[15] Elizabeth Aubrey, 'Man creates AC/DC song using Artificial Intelligence', *MNE* (16 Nov 2020), https://www.nme.com/en_au/news/music/man-creates-ac-dc-song-using-artificial-intelligence-2670383; the song is available at https://youtu.be/vpEVsDN84Hc
[16] See, e.g., Matulionyte (n 9).
[17] See e.g. Ariel Bogle, 'Australian Federal Police officers trialled controversial facial recognition tool Clearview AI', *ABC*, https://www.abc.net.au/news/science/2020-04-14/clearview-ai-facial-recognition-tech-australian-federal-police/12146894; Jon Porter, 'Facebook and LinkedIn are latest to demand Clearview stop scraping images for facial recognition tech', *The Verge*, https://www.theverge.com/2020/2/6/21126063/facebook-clearview-ai-image-scraping-facial-recognition-database-terms-of-service-twitter-youtube.
[18] Richard Lea, 'Google swallows 11,000 novels to improve AI's conversation ', *The Guardian* (28 Sept 2016) https://www.theguardian.com/books/2016/sep/28/google-swallows-11000-novels-to-improve-ais-conversation

these uses of artistic works (photographs) and literary works (romance novels) amount to the infringement of authors' moral rights?

While there is substantial literature discussing the authorship and ownership of AI-generated outputs[19] and some literature focusing on the infringement of economic rights when protected subject matter is used in the ML process,[20] there is essentially no academic or policy discussion on moral rights infringement in the ML context. Some researchers have suggested that unauthorised use of works in the AI context may lead to the violation of a moral right of integrity and recommended that an additional exception to the right of integrity should be considered.[21] This issue, however, has not been examined to any meaningful extent, neither in Australia nor overseas.

This paper will, first, explore whether the use of works in ML projects could lead to the infringement of moral rights. After answering to the positive, secondly, it will examine whether legal reform is needed, i.e., whether a TDM-style exception, if implemented in Australia, should extend to the moral rights of authors. [22] In order to examine the latter question, the proportionality test will be employed to determine whether any further limitations to moral rights could be justified.

It is worth noting that, so far, there have been no court cases involving the infringement of moral rights in the AI context. One of the reasons might be the lack of understanding among right holders, and especially authors, about how AI technologies function and whether the use of their works in AI projects might implicate their rights. Another difficulty is the lack of knowledge as to when and in which ML projects an author's works have been used. In some

[19] E.g. Courtney White, Rita Matulionyte, 'Artificial Intelligence Painting a Larger Picture on Copyright,' (2020) 30 *Australian Intellectual Property Review* 224; Russ Pearlman, 'Recognizing Artificial Intelligence (AI) As Authors and Inventors Under U.S. Intellectual Property Law' (2018) 24(2) *Richmond Journal of Law and Technology* 1; Ana Ramalho, 'Will Robots Rule The (Artistic) World? A Proposed Model For The Legal Status Of Creations By Artificial Intelligence Systems' (July 2017) 21(1) *Journal of Internet Law* 12 ; Rex M Shoyama, 'Intelligent Agents: Authors, Makers, and Owners of Computer-Generated works in Canadian Copyright Law' (2005) 4(2) *Canadian Journal of Law and Technology* 129; Julia Dickenson, Alex Morgan, and Birgit Clark 'Creative Machines: Ownership of Copyright in Content Created by Artificial Intelligence Applications' (2017) 39 *EIPR* 457, 457-458; Tim W Dornis 'Artificial Creativity: Emergent Works and the Void in Current Copyright Doctrine' (2020) 22 *Yale J L & Tech* 1, 20-24.

[20] See, e.g., Matulionyte (n 9).

[21] Drexl J. et al, 'Artificial Intelligence and Intellectual Property Law: Position Statement of the Max Planck Institute for Innovation and Competition of 9 April 2021 on the Current Debate', https://www.ip.mpg.de/fileadmin/ipmpg/content/stellungnahmen/MPI_PositionPaper__SSRN_21-10.pdf, p 12.

[22] While the paper focuses on *authors'* moral rights, the analysis could apply *mutatis mutandis* to *performers'* moral rights.

cases information about the training datasets might be published,[23] but in most instances datasets are kept confidential due to their commercial value.[24] In the latter case, right holders have few opportunities to discover in which datasets their works were integrated and for which projects they were used. The first problem is likely to be gradually addressed as ML technologies become mainstream and public understanding of the technology increases. With regard to the second problem, ethical AI principles adopted by multiple national and international bodies, call for more transparent and explainable AI,[25] which might lead to more transparency around the training data. Right holders are already exercising pressure to ensure more transparency around training data in order to facilitate copyright enforcement.[26] Finally, if a right holder suspects that their work has been used in a particular dataset in an infringing manner, they might apply for preliminary measures (e.g. Anton Piller orders) to confirm their suspicion and collect evidence required to start infringement proceedings.[27] Thus, as access to training datasets becomes more readily available in the future, authors might attempt to enforce their moral rights in the ML context.

This paper starts with a brief introduction to AI, and in particular ML technology (section II). Next, it explores whether, under current Australian copyright law, the use of works in ML projects could potentially infringe upon the right of attribution and the right of integrity of authors (section III). It concludes that, while the case law on moral rights is scarce and thus it is difficult to draw a definite conclusion, at least in some cases authors might be able to successfully invoke their moral rights in the ML context. At the same time, some of the uses that prejudice an author's right of attribution and the right of integrity are likely to be covered by the 'reasonable use' defence which AI developers might apply to their advantage. Finally,

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[23] E.g. the dataset that Google used to train its algorithms behind the Google Assistant service, had been previously published by Massachusetts University (but later removed). For an article that publishes the initial research results by researchers of the Massachusetts University, see Yukun Zhu et al, 'Aligning Books and Movies: Towards Story-like Visual Explanations by Watching Movies and Reading Books', available at https://arxiv.org/pdf/1506.06724v1.pdf.

[24] Rita Matulionyte, 'Trade secrets and explainable AI: can the two be reconciled?', 2022 44(1) *European Intellectual Property Review* 36, 36 (forthcoming).

[25] See e.g. OECD, Principles on AI (2019), https://www.oecd.org/going-digital/ai/principles/; European Commission, Ethics Guidelines for Trustworthy AI (2019), https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai; G20, AI Principles (2019), https://www.g20-insights.org/wp-content/uploads/2019/07/G20-Japan-AI-Principles.pdf; Australian Government, Australian AI Ethics Principles (2019), https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework/ai-ethics-principles.

[26] The need for transparency of training datasets for the purpose of copyright enforcement has been pointed out in the 4th WIPO Conversation on Artificial Intelligence and Intellectual Property, see e.g. intervention by Rita Matulionyte, available at https://www.wipo.int/export/sites/www/about-ip/en/frontier_technologies/interventions/pdf/ind_matulionyte.pdf.

[27] For a general explanation of Anton Pillar order, see Stewart et al, *Intellectual Property Law in Australia* (Lexis Nexis 2017) 55-57.

the article turns to a normative discussion on whether the current limitations to moral rights in the context of AI are adequate, or whether there is a need for further limitations. In particular, if Australia choses to follow the UK or EU path and adopt a TDM-style exception, should it extend to cover moral rights? The paper concludes that the current broad reasonable use defence already sets significant limitations on the moral rights of authors and the adoption of an additional TDM-style exception to moral rights would lead to unnecessary and disproportional limitations to these important rights.

II. Introducing AI and ML

AI is an all-encompassing word that could generally be defined as the ability of a computer system to "perform tasks normally requiring human intelligence".[28] The main subsets of AI are ML, predictive analytics, machine vision and natural language processing. ML, as one of the most popular subsets of AI technology and the one on which this paper will focus, enables a system to learn from data rather than through explicit programming.[29] It uses different algorithms (e.g. decision trees, artificial neural networks) that iteratively learn from input data ('training data') to improve, describe data, and predict outcomes ('outputs'). There are different categories of ML, such as supervised learning, unsupervised learning, reinforcement learning, and deep learning based on artificial neural networks.[30] They differ in the level of supervision and human intervention that the ML process requires.

Regardless of the category of ML, in most cases this process involves training the algorithm with large amounts of data. This process can be broken into several basic steps. First, an AI developer[31] develops an algorithm or chooses one of the existing algorithms and adopts it to their needs.[32] Second, the AI developer collects training data, which might be texts, images, sound or video recordings protected by copyright, then cleans it, labels it, organizes it and eventually creates a training data set.[33] Creating or adopting a dataset normally involves making multiple copies of content (data), which might be permanent or temporary. Third, the

[28] English Oxford Living Dictionary (online at 25 May 2019) 'artificial intelligence'.
[29] For a more detailed introduction into machine learning see, e.g. Wolfgang Ertel, *Introduction to Artificial Intelligence* (Springer, 2nd ed, 2017) 175-244.
[30] Ibid.
[31] AI developer might be one person or several persons. Often, an AI module is developed by a team comprising of algorithm architects, data engineers, coders, testers and other specialists in computer engineering and data science.
[32] Developers can get access to entire algorithms or parts of them on open-source repositories, such as Github.com.
[33] Instead of developing their own, AI developers may decide to reuse a dataset that was previously created by other data scientists; see eg Alberto Rizoli, '65+ Best Free Datasets for Machine Learning', 15 Nov 2021, https://www.v7labs.com/blog/best-free-datasets-for-machine-learning.

learning or training stage starts where the training data is ingested in the algorithm and it starts classifying and learning relationships between data. During this iterative process, multiple models are created, evaluated and fed with new data until a model is developed that produces desirable results. Finally, after the model is trained, it will be able to produce outputs requested by the user.[34] Overall, ML technologies and the outputs that they generate, heavily depend on the content in which they are trained. As industry experts agree, data is a fuel in the AI industry, and its importance in developing successful AI modules cannot be overstated.[35]

III. Can use of content in ML violate authors' moral rights?

Keeping in mind that content protected by copyright is increasingly being used to train ML modules,[36] the question emerges whether such use of protected content could lead to the violation of moral rights of authors and performers. Drawing on examples mentioned above, could the authors of AC/DC lyrics (or their descendants) argue that the song 'Great Balls' generated with the help of AI algorithm has infringed their right of attribution and a right of integrity? Was their right of attribution infringed because the authors of the lyrics used in the ML process were not mentioned when disseminating the song online? Was the right of integrity infringed because the song was parsed into segments and these segments were used to create a new song, which prejudiced the authors' honour or reputation?

Referring back to the Clearview AI example mentioned above, let us imagine that among billions of photos that Clearview used to train their face recognition algorithm were photos taken by a hypothetical legal scholar and civil rights activist Clara Clemens who has been actively advocating against the development and use of AI-based surveillance technologies. Could she argue that the use of her photographs in developing face recognition technologies prejudiced her professional reputation and/or honour and thus violated her right of integrity?

After briefly introducing moral rights in Australia (A), this section will demonstrate that in certain cases it might be possible to establish a *prima facie* infringement of a right of attribution (B) and a right of integrity (C). However, a broad reasonable use defence – a

[34] These might be images, text, scores, calculation or any other type of outputs.
[35] See, e.g., European Alliance for Research Excellence et al, 'Maximising the benefits of Artificial Intelligence through future-proof rules on Text and Data Mining', Brussels (9 April 2018) http://eare.eu/assets/uploads/2018/03/OpenLetter-to-European-Commission-on-AI-and-TDM_9April2018.pdf ("TDM is a building block for both machine and deep learning: without the ability of computers to analyse very large amounts of data, employ cognitive technologies to allow the learning of patterns, AI is not possible.")
[36] See examples mentioned in section I.

moral rights exception unique to Australia – might cover some of these uses and thus shield AI developers from liability in at least certain situations (D).

A. Moral rights in Australia: a brief introduction

The *Australian Copyright Act 1968* (Cth) (*Copyright Act*) contains two main moral rights: the right of attribution and the right of integrity.[37] The Act also lists a third right – a right not to be falsely attributed,[38] which is closely related to the right of attribution, and will not be separately examined in this paper.[39] Moral rights generally last 70 years after the death of the author[40] and can belong to natural persons only. In contrast to economic rights, moral rights cannot be transferred, divulgated by law or waived. However, under Australian law, authors can grant a consent to acts or omissions that would otherwise infringe upon moral rights.[41] Remedies that are available for the infringement of moral rights are injunction, declaration, damages for loss sustained, and an order for the defendant to publicly apologise.[42]

The right of attribution is the right to be identified as the author of the work if any of the 'attributable acts'[43] are done in respect of the work.[44] The author of a work may be identified by any reasonable form of identification,[45] unless author wishes to be identified in a particular way.[46] An identification of the author of a work must be clear and reasonably prominent.[47]

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[37] *Copyright Act 1986* Part IX, Div 2, Div 3, Div 4; performers rights are found in Part IX, Div 2A, Div 3A, Div 4A.
[38] *Copyright Act 1986* s 195AC et seq.
[39] The main reason for this choice is that this right does not seem to raise AI-specific concerns.
[40] *Copyright Act 1968* s 195AM; in case of performers, the right of integrity lasts until the death of the performer, while other moral rights last until the expiration of economic rights of performer, see s 195ANA. The exception applies to moral rights in cinematographic works that last until the death of film makers, see *Copyright Act 1968* s 195AM.
[41] *Copyright Act 1968* ss 195AW-195AWA; for a discussion of these provisions see Stewart et al (n 27) para 9.9.
[42] *Copyright Act 1968* ss 195AZ-195AZA.
[43] Attributable acts generally include reproduction of a work in a material form, publication, performance in public, communication to the public and making an adaptation of the work, see *Copyright Act 1968* s 194(a); see also s 194(b) (attributable acts with relation to artistic works) and s 194(b) (attributable acts with relation to cinematographic works).
[44] *Copyright Act 1968* s 193(2).
[45] *Copyright Act 1968* s 195(1).
[46] *Copyright Act 1968* s 195(2).
[47] *Copyright Act 1968* s 195AA; an example of a reasonably prominent identification is an identification of the author which is included on each reproduction of the work in such a way that a person acquiring the reproduction or copy will have notice of the author's identity, see *Copyright Act 1968* s 195AB.

The right of integrity is the right of authors "not to have the work subjected to derogatory treatment".[48] 'Derogatory treatment' is described as "the doing, in relation to the work, of anything that results in a material distortion of, the mutilation of, or a material alteration to, the work that is prejudicial to the author's honour or reputation or the doing of anything else in relation to the work that is prejudicial to the author's honour or reputation".[49]

The *Copyright Act* envisages a number of defences to the infringement of moral rights,[50] the most important of which is a 'reasonable use' defence. No violation of a right of attribution or a right of integrity will be established if the lack of attribution or a particular treatment of the work was 'reasonable', which is determined by consideration of a non-exclusive list of factors.[51] The latter defence is unique to Australia;[52] it provides a broad and flexible exception to moral rights that permits any use that could be considered 'reasonable'.

It is important to note that moral rights were introduced in Australian copyright law relatively recently, in 2000. Moral rights were introduced internationally in 1926, through the amendments to the *Berne Convention for the Protection of Literary and Artistic Works* (*Berne Convention*).[53] Nonetheless, during the remaining of 20th century Australia followed the UK, which refused transposing moral rights into copyright law and relied instead on common law actions of defamation, passing off and injurious falsehood.[54] Despite the UK's move to introduce moral rights into copyright law in 1988,[55] Australian debate on moral rights lingered for another 12 years until the *Copyright Amendment (Moral Rights) Act 2000* (Cth) was passed.[56] It introduced moral rights to authors of works and film makers, with moral rights for performers being further added in 2007.[57]

The historical unwillingness to introduce moral rights into the Australian copyright law system helps to explain why moral rights in Australia are of limited extent, compared to their

[48] *Copyright Act 1968* s A95AI(2); similar right for performers is found in s 195ALA.
[49] *Copyright Act 1968* s 195AJ – this provision relates to literary, musical and dramatic works; 'Derogatory treatment' with relation to artistic works, cinematographic works and performances is defined slightly differently, see *Copyright Act 1968* s 195AJ, 195AK, 195AL, 195ALB.
[50] See *Copyright Act 1968* ss 195AW-195AWA.
[51] See *Copyright Act 1968* ss 195AR, 195AS.
[52] UK has certain exceptions to moral rights, but much more limited ones – see discussion in IV.D.
[53] Entry in force on November 18, 1984.
[54] See *William McCausland v Surfing Hardware International Holdings Pty Ltd* ACN 090 252 752[2013] NSWSC 902 (9 July 2013) [844].
[55] See UK Copyright, Designs and Patent Act 1988; for an interesting discussion on whether the introduction of statutory moral rights in the UK has increased the actual protection for authors see Cyril P Rigamonti, 'Deconstructing Moral Rights' (2006) 47 *Harvard International Law Journal* 353.
[56] For an overview see Stewart (n 27) [9.3].
[57] Copyright Amendment Act 2006.

international counterparts.[58] Meanwhile, the *recent* introduction of moral rights in Australia explains why, so far, they have attracted limited judicial scrutiny. These two characteristics of the moral rights' system in Australia – its limited and recent nature – are especially relevant when analysing possible infringements of moral rights in the ML context.

B. Will use of works in ML violate a right of attribution?

I will now turn to the first moral right – the right of attribution – and examine whether it could be infringed when works are used in the ML context. Establishing a *prima facie* infringement of a right of attribution in the ML context would not cause significant difficulty. Authors of works used in ML projects are normally not attributed. As explained earlier, data sets used and the information about their contents is often kept confidential. For instance, in the notorious Clearview case, it is known that three billion photos were scraped from online sites.[59] However, it is still unknown what exact photos were used and who are the authors of these photos. [60] It can be assumed that Clearview made digital reproductions of the scraped photographs and that individual copies would then be made available (communicated) as search results when the face recognition system is used by police or other authorities to identify an individual. No attribution to the authors of the original photographs has been given, either during the training or during the use process, and thus the *prima facie* infringement of the right of attribution could be established.

A similar outcome could be established with relation to the AC/DC-style song 'Big Balls' generated using pre-existing AC/DC lyrics. While AC/DC as a band was attributed, at least when the song was uploaded on the Youtube website, no information was provided as to what songs were used to train the algorithm, nor about the authors of lyrics used. Assuming the YouTuber Funk Turley made (temporary or permanent) digital reproductions of AC/DC works during the ML process (thus, an 'attributable act') and did not attribute the authors, a *prima facie* infringement of the right of attribution could be established.

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[58] See the discussion on the reasonable use defense in section III.D.

[59] See e.g. Ariel Bogle, 'Australian Federal Police officers trialled controversial facial recognition tool Clearview AI', *ABC*, https://www.abc.net.au/news/science/2020-04-14/clearview-ai-facial-recognition-tech-australian-federal-police/12146894; Jon Porter, 'Facebook and LinkedIn are latest to demand Clearview stop scraping images for facial recognition tech', *The Verge*, https://www.theverge.com/2020/2/6/21126063/facebook-clearview-ai-image-scraping-facial-recognition-database-terms-of-service-twitter-youtube.

[60] It is worth noting that the Clearview case attracted public and legal scrutiny due to privacy law violations, but has not been discussed from copyright law perspective.

C. Will use of works in ML infringe the right of integrity?

Establishing the infringement of the right of integrity in the ML context would be a slightly more difficult task, but not an impossible one. As mentioned above, for the infringement of the right of integrity to be established, the authors would have to prove that the work was subject to the 'derogatory treatment', i.e. (1) that the use qualifies as 'material distortion of, the mutilation of, or a material alteration to, the work' or 'the doing of anything else in relation to the work' (hereinafter – derogatory conduct), (2) either of which is 'prejudicial to author's honour or reputation.'[61]

(1) Derogatory conduct

In some situations plaintiffs might find it relatively easy to prove that the use of works in the ML process "results in a material distortion of, the mutilation of, or a material alteration to, the work".[62] For instance, when Clearview compiled the dataset, they are likely to have cropped the photographs (so that only the face remained), and used these altered versions of the photographs for ML purposes.[63] These acts could qualify as a *material alteration* of the photo (if, e.g. a background formed a significant part of the photograph), or a *material distortion* (if, e.g. a background was meant to give a character to the person in the photo or provide a narrative).[64] Further, when AC/DC lyrics were used in the ML process, each song was parsed into segments (e.g. words) and then reassembled into an entirely different sequence, i.e. as a new song 'Great Balls', which would easily qualify as alteration, if not distortion or mutilation of the original works.

Cases that do not satisfy the material distortion, mutilation or material alteration requirement are likely to meet a broad 'doing anything else' requirement. According to the legislative history, the 'doing anything else' provision was "intended to address those instances where a

[61] See *Copyright Act 1968* s 195AJ.
[62] *Copyright Act 1968* s 195AJ.
[63] This is the way the dataset for face recognition technologies is normally prepared; for a discussion about the *Labeled Faces in the Wild* dataset, a popular benchmark for measuring the performance of facial recognition algorithms, see Benjamin L. W. Sobel, 'Artificial Intelligence's Fair Use Crisis', (2017) 41 *Colum. J.L. & Arts* 45, 67.
[64] See discussion on 'material alteration' and 'material distortion' in *Boomerang Investments Pty Ltd v Padgett* (Liability) [2020] FCA 535, para 394.

work is used in an inappropriate context and prejudices the author's honour or reputation".[65] As an example, it would cover situations where an artistic work is exhibited near other works that alter the author's message,[66] or in situations where a musical work is used in a political campaign and the author does not support the political views advocated by the political party that used the work.[67] The 'doing anything else' is thus an open and inclusive provision that does not appear to have any restrictions. The only qualifying factor is that this 'doing anything else' should be prejudicial to an author's honour or reputation, the criteria to be analysed below. Overall, the use of works in the ML context is likely to satisfy the first prong of the infringement test.

(1) Prejudice to honour or reputation

Establishing prejudice to honour and reputation might be a more difficult – but not an impossible – task. With regard to the AC/DC scenario, the authors of the original songs might argue that the AI-generated song 'Great Balls' prejudices their reputation. Since 'reputation' is not defined under *Copyright Act* or in cases dealing with moral rights infringements, it is useful to refer to the concept of reputation under defamation law where it is relatively well developed.[68] Under defamation law, in order to establish that the imputation was defamatory, the plaintiff is required to prove that, in the eyes of the 'ordinary, reasonable reader', a particular use will "diminish his esteem in which he is held by community",[69] expose her to "hatred, content or ridicule",[70] or "tend to lower the plaintiff in the estimation of right-thinking members of society generally".[71]

This test could arguably be satisfied in certain ML scenarios. For instance, if the lyrics of 'Great Balls' is of low quality or delivers a message incompatible with AC/DC values or reputation, the authors of AC/DC songs might argue that the song might diminish their esteem in the community and expose them to ridicule. This would be especially the case if

[65] Copyright Amendment (Moral Rights) Bill 1999**,** Revised Explanatory Memorandum [44]-[46].
[66] This is regulated in a separate section of *Copyright Act 1968* s 195AK.
[67] See e.g., *Boomerang Investments Pty Ltd v Padgett* (Liability) [2020] FCA 535, para 403; for an extensive discussion on this topic see Jessica Turley, 'Music in Campaigns: Does the Moral Right of Integrity Protect Musicians from Political (Mis)Appropriation?', (2019) 29 *Australian Intellectual Property Journal* 183.
[68] Applying defamation law is suitable also because, until 2000, moral rights of authors were protected under defamation law. At the same time, some courts have warned against literary borrowing of terms from defamation law into copyright law – see *Boomerang Investments Pty Ltd v Padgett* (Liability) [2020] FCA 535, 400.
[69] *Radio 2UE Sydney Pty Ltd v Chesterton* (2009) 238 CLR 460; [2009] HCA 16 at 466 (CLR).
[70] See eg *Parmiter v Coupland* (1840) 6 M&W 105; 151 ER 340 at 180 (M & W), at 341-2 (Er), cited from David Rolph, *Defamation Law* (Thomson Reuters 2016) fn 166.
[71] See *Sim v Stretch* [1936] 2 All ER 1237 at 1240, cited from Rolph (n 70) 112, fn 170.

the audience were confused as to the origin of the song and think that it has been created by, or with a permission of, the AC/DC band. This might, for instance, occur if this song is played on the radio where proper attribution is often not provided. On the other hand, prejudice to reputation could not be claimed if it is clear to the audience that the song was merely generated by a fan of an AC/DC band and has no connection to the band, or it is a parody or satire of the AC/DC music or band.

In other cases, such as the Clearview scenario discussed above, establishing prejudice to reputation might be more difficult or impossible. It is questionable whether the use of Clara Clemens' photos in the development of a face recognition technology would be seen by the 'ordinary, reasonable reader' as prejudicial to her reputation.[72] While she might be able to prove that she has a reputation as an advocate against such technologies, her reputation would not be prejudiced as the public has been made aware that Clearview used her photographs without the authorisation from Clara Clemens and other authors.

When establishing prejudice to reputation is not possible, authors might try proving prejudice to the author's honour.[73] For instance, Clara Clemens might be more successful in proving prejudice to her honour, on the condition that the Australian courts accept a broad interpretation of 'honour'. While the *Copyright Act* lists honour as a separate value which could be prejudiced,[74] there has been an extensive debate about whether 'honour' is a distinct concept from 'reputation'.[75] Some courts and authors have relied upon the historical origin of the provision and suggested that 'prejudice to author's honour and reputation' is 'akin to

[72] Damage to reputation could possibly be established if the court applies 'sectional standard' and assesses prejudice to her reputation from the eyes of likeminded professional community (e.g. those working against surveillance technologies). However, it is unlikely that the court would apply this standard, since this community is unlikely to qualify as 'appreciable and reputable' section of the community. For further discussion of the sectional standard see Rolph (n 70) 116.

[73] Note that prejudice to honour is only possible in case of *author's* right of integrity, but not in case of *performer's* right of integrity, see *Copyright Act 1968* s 195ALB; see also discussion in Elizabeth Adeney, 'Speculations on the Australian right of "integrity of performership": more questions than answers?' (2009) *Australian Intellectual Property Journal* 200, 208.

[74] See 'honour *or* reputation' (Italics added) in *Copyright Act 1968* s 195AJ.

[75] It has been subjected to significant academic commentary, see, eg, Patricia Loughlan, 'The Right of Integrity: What Is in that Word Honour? What Is in that Word Reputation?' (2001) *Australian Intellectual Property Journal* 189; E Adeney, *The Moral Rights of Authors and Performers: An International and Comparative Analysis* (OUP 2006) 129; Elizabeth Adeney, 'The Moral Right of Integrity of Authorship: A Comparative View of Australia's Proposals to Date' (1998) 9 *Australian Intellectual Property Journal* 179; Jani McCutcheon, 'The Honour of the Dead – the Moral Right of Integrity Post-Mortem', 42 (3) *Federal Law Review* 485.

libel', therefore subsuming 'honour' under the concept of 'reputation'.[76] Others have tried to distinguish the two.[77]

In a recent case, *Boomerang Investment*,[78] which concerned the modification and reuse of 'Love is in the Air' song by Air France, Perram J found that "'honour or reputation' in s 195AJ involves two distinct concepts".[79] When defining the concept of honour, Perram J suggested that honour is a subjective concept (i.e. a "personally held set of high-minded principles"), as well as an objective one meaning that a reasonable person would have to confirm that these subjective principles could objectively be seen as a part of the 'honour' of that person.[80]

If the courts accept 'honour' as a separate concept, Clara Clemens could argue that, while her reputation was not affected, her honour was prejudiced. She was 'shocked' to hear that her photographs were used by Clearview AI to develop face recognition technologies,[81] which she strongly opposes and is fighting against in her work as a legal scholar and civil activist. Clara Clemens could not suggest that her first photographs are highlights of her career as a photographer (as authors of 'Love is in the Air' did in their case).[82] However, she could argue that, due to her professional and personal opposition against public surveillance technologies, the use of any work of hers in the development of such technologies would be prejudicial to her sense of honour.

Thus, while there is limited judicial interpretation of the scope of the right of integrity, in some cases it might be possible to argue that the use of works in ML projects prejudiced author's reputation or honour, and thus constituted an infringement of the right of integrity. The next step would be to analyse whether any of the defences to moral rights infringement apply.

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[76] See e.g. *Pasterfield v Denham and Another* [1999] FSR 168 (CC) 181; *Perez* (2012) 260 FLR 1; *Harrison v Harrison* [2010] FSR 25; P Prescott and V Laddie, *The Modern Law of Copyright and Designs* (2nd edn, LexisNexis 1995) 1016 [27.18]; Loughlan (n 75) 195.

[77] See e.g. Tania Cheng-Davies, 'Honour in UK Copyright Law is Not 'A Trim Reckoning' – Its Impact on the Integrity Right and the Destruction of Works of Art', (2016) 36(2) *Oxford Journal of Legal Studies* 272, 283-284; Jani McCutcheon, 'Dead Loss: Damages for Posthumous Breach of the Moral Right of Integrity', 2016(40) *Melbourne University Law Review* 240, 269.

[78] *Boomerang Investments Pty Ltd v Padgett (Liability)* [2020] FCA 535.

[79] *Ibid* [400].

[80] *Ibid* [401].

[81] Compare *Boomerang Investments Pty Ltd v Padgett (Liability)* [2020] FCA 535, para 404-405 (the court was convinced that Mr Vanda was 'shocked' when he heard the modified version of the song and that his sense of honour was therefore prejudiced by the change to the lyrics).

[82] *Boomerang Investments Pty Ltd v Padgett (Liability)* [2020] FCA 535 [404-405].

D. Would 'reasonable use' defence apply?

One of the unique features of the moral rights system in Australia is that moral rights are subject to a broad 'reasonable use' exception, which applies with respect to both a right of attribution and a right of integrity. Assuming that we are dealing with the scenario where authors did not provide consent to the use of their works in a ML project,[83] reasonable use would be the defence that AI developers are likely to invoke. They might be successful in some cases, but not in others.

1) A Right of attribution and reasonable use defence

According to the *Copyright Act*, a person is not liable for the infringement of a right of attribution "if the person establishes that it was reasonable in all the circumstances not to identify the author."[84] In determining whether the use is reasonable, all relevant circumstances should be taken into account including the nature of the work; the purpose for which the work is used; the manner and context in which the work is used; any relevant industry practice or any practice contained in a voluntary code of practice; and other factors.[85] The onus is on the defendant to show that it is reasonable in the circumstances to subject the work to derogatory treatment.[86]

The scope of the reasonable use defence is not very clear and there is limited commentary on this exception.[87] While the reasonable use defence was rejected in essentially all Australian cases on moral rights,[88] these cases concerned rather blatant moral rights infringements and this might be a reason why defendants failed to successfully rely on the reasonable use defence. It is argued below that, in cases where the infringement of the right of attribution is claimed, AI developers are likely to be successful in relying on this defence

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[83] Such consent could be acquired e.g. via Terms of Use that users accept when using online websites. For example, Facebook's use of face recognition technologies is likely to be covered by its broad Terms of Use and, in case of dispute on moral rights infringements, the consent defence is likely to be established.
[84] *Copyright Act 1968* s 195AR(1).
[85] *Copyright Act 1968* s195AR(2).
[86] *Copyright Amendment (Moral Rights) Bill 1999*, *Explanatory Memorandum Revised*, p 1-2.
[87] See limited comments in e.g. Mark J Davison, Ann L Monotti, Leanne Wiseman, *Australian Intellectual Property Law* (3rd ed, Cambridge University Press 2016) 340-342; V. Morison, *Moral Rights: A Practical Guide* (Sydney: Australian Copyright Council, 2000) 13; Sam Ricketson and C.Creswell, *The Law of Intellectual Property: Copyright, Designs and Confidential Information* (2nd ed, Sydney: LBC Information Series, 1999) [10.175].
[88] See e.g. *Meskenas v ACP Publishing Pty Ltd* [2006] FMCA 1136 (14 August 2006); *Perez* (2012) 260 FLR 1, *Boomerang Investments Pty Ltd v Padgett (Liability)* [2020] FCA 535; *McCausland v Surfing Hardware International Holdings Pty Ltd* [2013] NSWSC 902 (9 July 2013).

AI developers might identify a number of reasons to justify a lack of attribution when the works are used in ML context. Firstly, the ML process requires using datasets comprising of many works – from hundreds to billions – and attributing so many authors is not practicable.[89] Secondly, in many cases, the authors of content used are not known, especially when the content is scraped from publicly available websites or databases. Thirdly, even if authors were known and it were possible to list all of them, it is unclear how and when they should be attributed. In case of Clearview AI, should authors be listed in the user manual, a website that is marketing the technology, or elsewhere? In the case of AI-generated AC/DC-style song, should the authors of original AC/DC songs be credited every time the new song is being made available online? If so, how they should be credited? If they are listed among the authors, the audience would be misled and this might lead to the claim of false attribution of authorship.[90] Alternative descriptors could be used, such as 'based on works of person A and person B' but they might lead audiences to assume that authors permitted such uses, which then might cause other legal issues. Further, they could refer to the prevalent AI industry practice where attribution is generally not provided. Finally, if training data is kept confidential, AI developers could argue that identification and attribution of all authors would interfere with their trade secret protection as it would require them to (indirectly) disclose the content of their training set.

Keeping in mind these and other difficulties in attributing authorship, AI developers might be successful in relying on a reasonable use defence. Essentially, they might argue that due to the context and manner in which the work was used, it was reasonable not to attribute the authors. It is thus difficult to imagine a situation, at least under current copyright law, where AI developers would fail to prove reasonable use and would be held liable for not attributing the authors of the content used in the ML context.

(2) A right of integrity and reasonable use

A similar reasonable use defence applies with relation to the right of integrity. A person is not liable for the infringement of the right of integrity if "the person establishes that it was reasonable in all the circumstances to subject the work to the treatment".[91] It is determined by applying a similar set of criteria mentioned above (nature, purpose, manner, context of use, industry practice, etc.). While AI developers might be successful in most, if not all, cases

[89] E.g. Clearview used three billions of photographs to train its algorithm, see section I above.
[90] *Copyright Act 1986* s 195AC et seq.
[91] See *Copyright Act 1968* s 195AS(1).

of infringement of attribution right in which they rely on this defence, this would not necessary be the case when the infringement of the right of integrity is claimed.

If we applied the reasonable use defence to the Clearview AI and Clara Clemens scenario, Clearview would be able to argue that the purpose of use of works was certainly not to prejudice the author's honour, offend or humiliate the author or promote the defendant's reputation, [92] but was a mere technical purpose, i.e. to train an AI module. Furthermore, even if Clearview was willing to determine whether the authors' honour or reputation could be prejudiced by this use and prevent it, due to the nature of use, there would have been no means to do that. Keeping in mind the large volumes of content that was processed and the general unavailability of information about the author's political or professional views, it was simply not possible to avoid prejudice to reputation and honour of Clara Clemens.[93] Clearview could also potentially refer to industry practice where online content, including photographs, are often used in the AI industry to train ML modules without prior authorisation from right holders.[94] In fact, it is often assumed by IT specialists, even if incorrectly, that if the content is freely available online, it is legal to use it for AI development purposes and no permissions are needed.[95] This argument could be reinforced by the fact that the use of content in TDM and ML is to a certain extent legal in at least the US and EU jurisdictions.[96] It therefore seems that Clearview could make a relatively strong case of reasonable use if Clara Clemens claimed an infringement of the right of integrity.

On the other hand, the person who used an AI bot to generate an AC/DC-style song, might face more difficulties in establishing reasonable use. It is clear that the defendant used AI to manipulate the AC/DC songs with the purpose to create AC/DC-style music, which was then disseminated among Internet audiences, including AC/DC fans. Even if he might not have intended to prejudice the reputation of AC/DC (acted as a fan), intentionally or unintentionally, he used and relied on their reputation and creative style to attract audiences

[92] In contrast, in the *Perez v Fernandez* case, where reasonable use defence was rejected, it was clear that the defendant engaged in derogatory actions in order to either promote their own reputation or mock the defendant, see *Perez v Fernandez* (2012) 260 FLR 1, [86]-[88].
[93] In contrast, in *Boomerang* case, where the reasonable use defense was rejected, the derogatory treatment of work (alteration) that led to the prejudice of honour, could have been easily avoided by acquiring a permission from authors.
[94] In contrast, in *Meskenas v ACP Publishing* case, there was an industry practice to indicate the name of the author of the painting when its copy is publicly exhibited.
[95] From a panel discussion on 'Artificial Intelligence and Copyright: Some Ethics and Human Rights Implications', organized by Australian Copyright Society, 23 July 2020.
[96] See section I above.

to the song via such channels as YouTube.[97] The fact that he was dealing with works belonging to few (rather than multiple) authors and thus, was able to approach the authors for a permission, might also weigh against recognizing reasonable use. Further, in the music industry, it is an established practice that music sampling requires licensing.[98] It might be argued that defendant should have assumed that similar licensing practice is to be expected when works are used in ML projects, when segments of pre-existing songs are used by AI to create new songs.

IV. Do we need an additional exception to moral rights?

The preceding analysis has demonstrated that in most (if not all) cases the use of works in the ML context would infringe the author's moral rights of attribution or integrity. At the same time, the available defences, and especially the broad and flexible reasonable use defence, might apply to such situations and eliminate the liability of AI developers in at least certain situations. The question that requires to be discussed next is whether the current legal situation is satisfactory or whether a further policy action is needed. In particular, if Australia adopts a TDM-style exception which excludes uses in the ML context from the scope of economic rights of authors, should this exception extend to cover moral rights' infringements?

This section argues that, despite certain legal uncertainty and insecurity that moral rights potentially pose to AI developers, in Australia, no further limitations to moral rights are needed. I apply a well-established principle of proportionality as an analytical framework (introduced in section A below) and demonstrate that the current legal regime sets significant limitations to an author's moral rights and any further limitations would not meet the four-prong test of proportionality (sections B-E below).

A. Principle of proportionality as an analytical framework

[97] The song was also broadly reported on public media, which attracted further audiences to it, see e.g. Fraser Lewry, 'Man makes bot write AC/DC song: the result is Great Balls', 15 May, 2020, *LouderSound,* https://www.loudersound.com/news/man-makes-bot-write-acdc-song-the-result-is-great-balls; Joe DiVita, 'Artificial intelligence bot writes ac/dc-styled song 'great balls'', 15 May 2020, https://loudwire.com/artificial-intelligence-bot-writes-ac-dc-song-great-balls/.

[98] E.g. Sam Claflin, 'How to Get away with Copyright Infringement: Music Sampling as Fair Use', (2020) 26 *BUJ Science & Technology Law* 26 (2020) 159, 159.

The proportionality principle is a common way of determining whether a law is justified.[99] The proportionality principle has been especially prominent in constitutional law and has been called the "most important doctrinal tool in constitutional rights law around the world for decades".[100] It has been received to some extent by Australian courts,[101] and used by the Australian Parliament,[102] as well as other Australian government institutions.[103] The proportionality principle has also been applied in the *copyright law* context internationally and in Australia. The Court of Justice of the European Union has extensively relied on the proportionality principle, especially in the balancing of interests of different stake holders, in copyright cases.[104] In Australia, the proportionality principle has been applied in copyright law debates by legal scholars,[105] while the ALRC has at least implicitly suggested that copyright law should balance a few competing principles, such as maintaining incentives for creation and dissemination of works and promoting fair access to content.[106] While the principle of proportionality has been criticized for a lack of legal certainty when applied in judicial practice,[107] it remains a useful tool in normative policy debates.[108]

It is worth noting that the suitability of exceptions in copyright law is often assessed applying the three-step-test initially implemented in article 9(2) of the *Berne Convention for the protection of literary and artistic works*.[109] It allows introducing exceptions to intellectual

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[99] ALRC, *Traditional Rights and Freedoms—Encroachments by Commonwealth Laws. Final Report 129* (December 2015) [2.62].
[100] Kai Moller, 'Proportionality: Challenging the Critics' (2012) 10 *International Journal of Constitutional Law* 709, 709; see also G Huscroft, B Miller and G Webber (eds), P*roportionality and the Rule of Law: Rights, Justification, Reasoning* (Cambridge University Press, 2014) 1.
[101] See eg *McCloy v New South Wales* [2015] HCA 34 (7 October 2015) [2] (French CJ, Kiefel, Bell and Keane JJ); also Adrienne Stone, 'The Limits of Constitutional Text and Structure: Standards of Review and the Freedom of Political Communication' (1999) 23 M*elbourne University Law Review* 668, 677.
[102] See e.g. Parliamentary Joint Committee on Human Rights, Parliament of Australia, *Guide to Human Rights* (2014) 8 ("A key aspect of whether a limitation on a right can be justified is whether the limitation is proportionate to the objective being sought. Even if the objective is of sufficient importance and the measures in question are rationally connected to the objective, the limitation may still not be justified because of the severity of its impact on individuals or groups.").
[103] E.g. it is used by Attorney-General Department, see ALRC Report 129 (n 99) [2.68]-[2.69].
[104] See, e.g. Peter Teunissen, 'The balance puzzle: the ECJ's method of proportionality review for copyright injunctions', 2018 40(9) *European Intellectual Property Review* 579-593.
[105] Nicholas Suzor, Brian Fitzgerald, 'The legitimacy of graduated response schemes In copyright law', 2011(34)1 *UNSW Law Review* 1; Handler, Michael, 'Reconsidering the Need for Defences to Permit Disclosures of Confidential Copyright Material on Public Interest Grounds,' (2021) *UNSWLRS* 8.
[106] See ALRC Report 122 (n 12) [2.15], [2.41].
[107] See for example A. Peukert, 'The Fundamental Right to (intellectual) property' *in* Christophe Geiger (ed.), *Research Handbook on Human Rights and Intellectual Property* (Edward Elgar 2015), 132-148, 135; Angelopoulos and Smet, 'Notice-and-Fair-Balance' (2016) 8 *Journal of Media Law* 268, 275; Griffiths, 'Constitutionalising or harmonising?' (2013) 38 *E.L.R.* 65, 69.
[108] ALRC Report 129 (n 99) [2.76].
[109] See also art. 13 of WTO Agreement on Trade-related aspects of Intellectual Property (TRIPS), signed on 15 April 1994, Marrakesh.

property rights in certain special cases provided that they do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author. I suggest that the proportionality principle is better suited to assess the limitations to moral rights for two reasons. First, the three-step-test was proposed primarily as a framework for limitations to economic rights.[110] Thus, the terminology that it uses, such as 'conflict with normal exploitation', aligns with economic rights but not so well with moral rights, which cannot generally be assigned or exploited in any way. Second, moral rights historically originate from the natural rights movement which sees works as a result of an author's labor (the Lockean approach) and materialisation of his or her personality (as per Kand and Hegel).[111] The natural rights movement strongly influenced the emergence of the international human rights framework.[112] Even if there is no consensus whether economic and moral rights of authors are human rights *sensu stricto*, there is a clear link between an international human right "to the protection of the moral […] interest resulting from any scientific, literary or artistic production of which he is the author"[113] and moral rights of authors granted under copyright law. It is thus appropriate to use the proportionality principle, a framework used to assess the limitations to human rights, also when assessing limitations to moral rights of authors.

While there are a few variations of the principle of proportionality, for the purposes of this paper, the four-step test will be applied:[114]

1. Does the legislation (or other government action) establishing the right's limitation pursue a legitimate objective of sufficient importance to warrant limiting a right?
2. Are the means in service of the objective rationally connected (suitable) to the objective?

[110] In the Berne Convention, the three-step-test applies to the limitations of the reproduction right; in TRIPS, it was extended to all economic rights while moral rights fall outside the scope of this Agreement.
[111] See Rebecca Giblin and Kimberlee Weatherall, 'If we redesigned copyright from scratch, what might it look like?', in Rebecca Giblin and Kimberlee Weatherall (eds), *What if we could reimagine copyright?* (ANU Press 2017) 1-23, 17; Martin Senftleben, *Copyright, Limitations and the Three Step Test* (Kluwer Law International, 2004) 6; Paul Goldstein, *Copyright's highway: from Gutenberg to the celestial jukebox* (New York: Hill and Wang, 1994) 11-17.
[112] For more on this issue see John Simmons, 'Human rights, natural rights, and human dignity,' in Rowan Cruft, S. Matthew Liao, Massimo Renzo, *Philosophical Foundations of Human Rights* (Oxford University Press 2015) 138-152.
[113] See Article 27(2) of the Universal Declaration of Human Rights; International Covenant Economic, Social and Cultural Rights, adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966; entry into force 3 January 1976; art 15(1)(c).
[114] Huscroft et all (n 100) as cited in ALRC Report 129 (n 99) [2.64].

3. Are the means in service of the objective necessary, that is, minimally impairing the limited right, taking into account alternative means of achieving the same objective?
4. Do the beneficial effects of the limitation on the right outweigh the deleterious effects of the limitation; in short, is there a fair balance between the public interest and the private right?

In particular, in the following sections I will analyse whether (1) the TDM-style exception, if extended to moral rights, would pursue a legitimate objective of sufficient importance; (2) would this exception be rationally connected – i.e. suitable – to reach the objective; (3) would the exception be necessary, that is, would it minimally impair the limited right; and (4) would the benefits of the exception outweigh the detrimental effects on moral rights' holders (proportionality *sensu stricto*)?

Since the Australian government has not decided on the possible format of the copyright exception, the following analysis will refer to the TDM exceptions as available in the UK and EU, since the adoption of such TDM-style exception in Australia seems to be more likely than other proposed solutions.[115] In brief, the UK TDM exception allows a person to "carry out a computational analysis of anything recorded in the work for the sole purpose of research for a non-commercial purpose".[116] The EU exception allows "reproductions and extractions of lawfully accessible works and other subject matter for the purposes of text and data mining" for both non-commercial and commercial purposes;[117] however, in case of commercial use, right holders have an opportunity to opt out from the exception.[118]

B. Would an extended TDM-style exception serve a legitimate aim?

With regard to the first prong of the proportionality test – legitimate aim– the TDM-style exception, if introduced in Australia for *inter alia* moral rights, is likely to serve a legitimate aim. When introducing the TDM exceptions, the goals of both the UK government and the

[115] In its Final Report 122, ALRC proposed two alternative solutions: fair use and fair dealing for incidental and technical use. Fair use defence had previously been rejected by different governments, while fair dealing for incidental and technical use, at least as proposed in the ALRC report, would not cover TDM at all; see ALRC Report 122 (n 12) [11.74].
[116] UK *Copyright, Designs and Patents Act (1988)*, s 29A(1)(a).
[117] *EU Digital Single Market Directive* (n 10), arts 3 and 4.
[118] *EU Digital Single Market Directive* (n 10) s 4(3).

EU were to 'encourage innovation' in new data-based technologies, including ML.[119] Thus, a similar Australian exception could aim to foster the development of data-driven technologies, including AI and ML.

As has been previously indicated, AI technologies offer an immense potential for the Australian economy and various industries and sectors – from creative content generation and online retailing industries to healthcare and law enforcement.[120] Therefore, there is a need to remove unnecessary barriers to these technological developments, including those posed by copyright law. The above analysis has demonstrated that moral rights cause certain legal uncertainty and insecurity for AI developers.[121] If right holders were successful in proving that the use of works in the ML context led to moral rights infringements, remedies applied in such cases might be significantly detrimental for AI developers. For instance, in the case where an injunction is granted, the work used in the training dataset might need to be removed from it, and the algorithm might need to be retrained with a new dataset. The courts have a discretion not to award an injunction[122] but courts normally exercise this discretion in exceptional cases only.[123] Further, right holders might request compensatory remedies, such as damages for loss resulting from the infringement,[124] which might be quite significant.[125] Thus, the introduction of a TDM exception covering *inter alia* moral rights, would serve a legitimate purpose to remove legal uncertainty and risks to which AI developers are currently exposed, and in this way promote the development of AI technology.

C. Would the exception be suitable to achieve the aim?

The next question is whether the introduction of a TDM exception with relation to moral rights would constitute the means that are *suitable* to achieve the stated objective, [126] i.e. whether the means are rationally connected to the aim.[127] This element arguably sets a low standard and will be satisfied unless the measure is deemed to be an arbitrary or a manifestly

[119] See, e.g. *EU Digital Single Market Directive* (n 10) Recital 18.
[120] See section I above.
[121] See sections III.C and III.D above.
[122] *Copyright Act* s 135AZA(2).
[123] See e.g. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).
[124] *Copyright Act* s 135AZA(1)(b).
[125] E.g. in *Tyler v Sevin [2014] FCCA 445,* the court awarded damages of AUD1,850 and additional damages of AUD12,500 with costs; in *Meskenas v ACP Publishing Pty Ltd (2006) 70 IPR 172,* the court awarded damages of AUD9,100 for the infringement of attribution right.
[126] Jurgen Schwarze, *European Administrative Law* (Sweet & Maxwell UK, 1992) 679-702.
[127] See Huscroft (n 100); Aharon Barak, *Proportionality: Constitutional Rights and Their Limitations* (Cambridge University Press, 2012) 3; Gino Scaccia, 'Proportionality and the Balancing of Rights in the Case-law of European Courts' (2019) 4 *Federalismi.IT* 1, 6; Robert Alexy, 'Constitutional Rights and Proportionality' (2014) 22 *Revus* 51, 53.

unsuitable instrument that obstructs or limits a right without promoting the objective which it was intended to achieve.[128] This criterion presumes that a measure possesses a minimum degree of effectiveness, as an ineffective measure cannot benefit the pursued aim.[129] In some jurisdictions this is referred as a test of 'appropriateness'.[130]

The TDM-style exception is likely to satisfy this criterion because it has a sufficiently clear connection with a goal to foster the development of innovative data-based technologies. As explained above, moral rights pose certain legal risks to AI developers, namely, they might be held liable for moral right infringement and subject to a variety of remedies. The TDM exception, which makes the enforcement of moral rights in the ML context impossible, would eliminate such risks. Therefore, it appears to possess a minimum degree of effectiveness required under this criterion.

D. Is the exception necessary?

It is however questionable whether the TDM-style exception is a *necessary* measure to attain the stated objective, i.e. to promote innovation in the AI industry. Necessity is taken to mean that the state implementing the measure has no alternative mechanism which is less restrictive of rights and freedoms at its disposal.[131] It suggests that the means – even if rationally connected to the objective in this first sense – should interfere 'as little as possible' with the right or freedom in question.[132]

It is doubtful whether the TDM-style exception would be the 'least restrictive means' to remove unnecessary legal risks and encourage innovation in the AI sector. While the exact parameters of the possible TDM exception in Australia are still to be determined, it is important to highlight that the *Copyright Act* already contains measures that significantly limit these risks. As discussed above, the broad and flexible reasonable use defence – unique to Australia – is likely to sufficiently protect the interests of AI developers. It is likely to shield AI developers from liability claims if their use is considered 'reasonable', which would be determined weighing various factors, including the purpose and context of use, existing

[128] Caroline Cauffman, 'The Principle of Proportionality and European Contract Law' (Working Paper No 2013/5, Maastricht European Private Law Institute, January 2013) 6.
[129] Teunissen (n 104) 4.
[130] This concept is used by CJEU: See Sauter, 'Proportionality in EU Law' (2013) 15 *C.Y.E.L.S.* 448, 448-449; *R. v Minister of Agriculture Ex p. Fedesa* (C-331/88) EU:C:1990:391; cf. *UPC Telekabel* EU:C:2014:192, [2014] *Bus. L.R.* 541, Opinion of A.G. Cruz Villalón; C-283/11, *Sky Österreich* EU:C:2013:28; [2013] 2 C.M.L.R. 25 at [51] and [52].
[131] Georg Nolte, 'General Principles of German and European Administrative Law – A Comparison in Historical Perspective' (1994) 57 *The Modern Law Review* 192, 193.
[132] See also *R v Oakes* [1986] 1 SCR 103 [69]–[70].

industry practices and others.[133] As demonstrated above, Clearview might use this defence to shield claims from right holders such as Clara Clemens, by arguing that their purpose was a mere technical use (algorithm training) and that, due to the scope and context of use, it was not possible to acquire author's consent or even to predict that the alleged harm to moral interests of the author could occur.

Since the reasonable use defence would not protect from liability in all cases (see the AC/DC scenario discussed above), it appears to be a less restrictive measure than the proposed TDM-style exception. The latter is supposed to cover all content uses in the ML context, either in non-commercial (UK model) or both in commercial and non-commercial settings (EU model). As a result, a TDM-style exception to moral rights would not satisfy the 'least restrictive measure' requirement.

It is also worth questioning whether the reasonable use defence itself would be considered a 'necessary' limitation to moral rights. Out of more than 60 countries that provide for moral rights' protection,[134] most do not have explicit moral rights exceptions at all.[135] Countries that have exceptions to moral rights, such as the UK, provide much narrower exceptions.[136] This demonstrates that the reasonable use exception itself, is not necessarily the least restrictive limitation to moral rights, and its strict 'necessity' could be challenged too.

As a result, since the legal security and certainty interests of AI developers are already to a large extent safeguarded by a broad reasonable use defence, which provides less restrictive exceptions in the ML context than the possible TDM exception, an additional TDM-style exception to moral rights would not meet the 'necessity' test.

E. Would the TDM-style exception be proportional *sensu stricto*?

The final criterion – proportionality *sensu stricto* – requires that there must be a proportionality between the effects of the measures which are responsible for limiting the right, and the objective of the provision.[137] That is, the effect on the individual right is weighted with the stated public interest, seeking to minimise limitations on the former, and maximise the latter. Importantly, the right should not be limited to the extent that it becomes

[133] *Copyright Act* s 195AR(2), see discussion section III.D above.
[134] Copyright Law Reform Committee (CLRC), Report on Moral Rights (1988), Part II [3].
[135] See e.g. EU countries analysed in the European Parliament, *Copyright Law in the EU: Salient Features of copyright law across the EU Member States, Study*, June 2018 - PE 625.126.
[136] Under the UK's Copyright, Design and Patent Act 1988, the right of integrity does not apply to computer programs and computer-generated works, in the context of news reporting and a few other limited and clearly defined cases, see *Copyright, Design and Patent Act (UK)* s 81.
[137] *R v Oakes* [1986] 1 SCR 103 [69]–[70].

entirely ineffective. This test is also referred to as a 'balancing act' where the benefit gained by the purpose of the law is balanced with the harm caused by the right.[138] The proportionality principle requires setting a balance of interests, without prioritizing one set of interests.[139] If the measure does not satisfy the necessity criteria, the assessment of proportionality *sensu stricto* is not necessary.[140] However, for the purpose of completeness, a brief analysis of this prong is provided below.

It is very doubtful whether the TDM-exception, if extended to moral rights, would satisfy the balancing test required under the proportionality principle *sensu stricto*. From the perspective of authors, the TDM exception would preclude *any* claims of moral rights' infringements in the ML context, either in non-commercial settings only (if UK model is followed) or also in commercial settings (if EU model is followed). Essentially, this would make moral rights of authors redundant in the AI context. Namely, even if authors prove that a particular use was derogatory and has prejudiced their honour or reputation, and that such use was not reasonable (which themselves are rather high thresholds), the TDM exception would prevent authors from stopping such derogatory and unreasonable treatment of their works. Meanwhile, AI developers, who already can rely on the reasonable use defence to a large extent, would be granted full protection against any moral rights claims in the ML context. The small amount of legal insecurity that they currently encounter, would be entirely eliminated.[141]

It is thus doubtful whether the TDM exception would be able to achieve the appropriate balance between the interests of authors and AI developers. It appears that the extension of the TDM exception to moral rights would result in giving a priority to AI developers' interests and disregarding authors' moral interests entirely.[142]

It is worth noting that the moral interests of authors are valued differently to economic interests of authors in general, and in AI context in particular. This might justify different treatment of economic and moral rights of authors in AI context. Firstly, moral rights are

[138] See Teunissen (n 104) 4; A. Barak, *Proportionality: Constitutional Rights and their Limitations* (Cambridge: Cambridge University Press, 2012) 343.
[139] See e.g. Teunissen (n 104) 6.
[140] If a single element of the proportionality principle is not proven, the measure is considered non-proportional.
[141] This is assuming that the TDM exception would not be limited in any way. In contrast, the EU TDM exception allows right holders to opt out from the TDM exception for commercial purposes, see discussion above.
[142] See Teunissen (n 104) 6 (one interest should not be prioritized over another interest).

especially highly valued by authors[143] not least because they are more closely related to the personality of an author than economic rights. The right of integrity protects such immaterial but highly important ethical values as honour and reputation. While exceptions to economic rights limit access to economic benefits that authors receive from their works, limiting moral rights means that authors are deprived from the possibility to protect their reputation and standing in society and their personal sense of honour and self-respect. Second, moral rights, even if economically not significant or less enforced than economic rights, are often the only rights that authors actually retain. When the work is exploited, economic rights are often transferred to intermediaries (producers, publishers etc.) who then exclusively exploit and enforce these rights. Since moral rights cannot be assigned or transferred, they remain as a symbolic power for authors to control at least certain usages of their works. Allowing authors to retain their moral rights in a new technological environment thus allows authors to retain that symbolic power, without unreasonably threatening the economic interests of AI industries.

V. Conclusion

While there has been a considerable discussion on whether economic rights of authors should or should not be limited in order to facilitate innovation in the AI industry, moral rights' implications on AI innovation and possible solutions have not been discussed so far. This paper demonstrates that moral rights could be potentially triggered when works are used as training data in ML projects. At the same time, the flexible reasonable use exception that exists under Australian copyright law is likely to apply to many of such uses. While the reasonable use defence is unlikely to shield AI developers from liability in all cases, it is submitted here that no further exceptions to moral rights is needed. Even if Australia introduces a specific exception covering economic rights in the ML context – such as a TDM-style exception available in the UK and EU – this exception should not be extended to moral rights as it would fail to meet the internationally recognized proportionality principle and would give priority to AI developers while entirely disregarding authors' moral rights and interests in a new technological environment.

[143] See Kylie Pappalardo, Patricia Aufderheide, Jessica Stevens, Nicolas Suzor, (2017) *Imagination foregone: A qualitative study of the reuse practices of Australian creators* (Queensland University of Technology, Brisbane), available at https://eprints.qut.edu.au/115940/.