

Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

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[Google Scholar profile](#)

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

33 Citing papers mapped	33 Citation edges	5 Home papers mapped	11 h-index (GS)
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Filtering statement – methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper’s authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar’s known collaborators; *same-institution* citations are by authors affiliated with the scholar’s institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar’s own circle.

Known limitations – counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight – re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar’s own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

87.9% independent of 33 classified citing papers

Citation type	Count
Independent	29
Self-citation	0
Co-author	4
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total – the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing – how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner’s choice of comparison field.

Contribution 1

Claim – Contribution 1

The researcher developed scalable crowd-sourced fact-checking frameworks and applied them to quantify the impact of vaccine misinformation on social media platforms.

The researcher's core contribution rests on the 2021 Science Advances paper, 'Scaling up fact-checking using the wisdom of crowds,' which appears to establish a methodological foundation for leveraging collective intelligence in verification tasks. This work is extended by the 2024 follow-up, 'Quantifying the impact of misinformation and vaccine-skeptical content on Facebook,' suggesting a progression from general methodology to specific application in public health contexts.

This line of work appears to address the challenge of efficiently verifying information at scale, a critical gap in the era of rapid digital dissemination. The chronological shift from a general framework to a targeted analysis of vaccine skepticism indicates an original approach to applying crowd-sourced insights to high-stakes misinformation domains.

The significance of this research is evidenced by substantial citation counts, with the core paper accumulating 369 citations and the follow-up reaching 202. Notably, 100% of the classified citing papers originate from independent researchers, indicating broad adoption and validation of these methods by the wider scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 15 · 4 flagged influential by Semantic Scholar

CORE PAPER

[Scaling up fact-checking using the wisdom of crowds](#)

2021 · Science Advances · 369 citations (GS)

Field-normalised: 220 Semantic Scholar citations place it in the top 1% of Political Science papers from 2021 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The psychology of fake news (2021)	Massachusetts Institute of Technology, University of Regina	Canada, United States	Result
2	Spread of misinformation on social media: What contributes to it and how to combat it (2022)	—	—	—
3	Quantifying the impact of misinformation and vaccine-skeptical content on Facebook (2024)	Massachusetts Institute of Technology, University of Pennsylvania	United States	Influential
4	Online searches to evaluate misinformation can increase its perceived veracity (2023)	New York University, Stanford University, University of Central Florida	United States	—
5	Explainable Fake News Detection With Large Language Model via Defense Among Competing Wisdom (2024)	Hong Kong Baptist University, Jilin University, Jinan University	China, Singapore	—
6	Misinformation on Misinformation: Conceptual and Methodological Challenges (2023)	Sciences Po, University of Trento, University of Zurich	France, Italy, Switzerland	Influential
7	Differences in misinformation sharing can lead to politically asymmetric sanctions (2024)	Cornell University, Massachusetts Institute of Technology, University of Oxford	United Kingdom, United States	—
8	Jury Learning: Integrating Dissenting Voices into Machine Learning Models (2022)	Apple, Stanford University	United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
9	Dual emotion based fake news detection: A deep attention-weight update approach (2023)	Shanghai University	China	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

RESULT The psychology of fake news

“First, truth is not a black-and-white, clearly defined property: even professional fact-checkers often disagree on how exactly to classify content [77,78].”

FOLLOW-UP WORK

[Quantifying the impact of misinformation and vaccine-skeptical content on Facebook](#)

2024 · 202 citations (GS)

Field-normalised: 98 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Artificial intelligence for modelling infectious disease epidemics (2025)	ETH Zürich, Genomics England, Scripps Research	South Africa, Switzerland, United Kingdom	—
2	Political polarization and health (2024)	Columbia University, New York University, Syracuse University	United States	—
3	Why Misinformation Must Not Be Ignored (2025)	Australian National University, Harvard University, King's College London	Australia, United Kingdom, United States	—
4	Countering Misinformation and Fake News Through Inoculation and Prebunking (2021)	University of Cambridge	United Kingdom	—
5	Social identity correlates of social media engagement before and after the 2022 Russian invasion of Ukraine (2024)	Kyiv School of Economics, University of Cambridge	Ukraine, United Kingdom	Influential
6	A broader view of misinformation reveals potential for intervention (2024)	University of Cambridge	United Kingdom	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 2

Claim — Contribution 2

The researcher established a framework for evaluating fake news at the scale of the entire information ecosystem, as demonstrated in a highly cited 2020 Science Advances paper.

The researcher’s primary contribution is the development of a methodology to evaluate the fake news problem at the scale of the information ecosystem. This work is anchored by the 2020 publication in Science Advances, which serves as the foundational text for this specific line of inquiry.

This line of work appears to address the challenge of assessing misinformation not in isolation, but within the broader context of the information ecosystem. By focusing on scale, the research suggests a shift from analyzing individual instances of fake news to understanding systemic dynamics, offering a novel perspective on how misinformation propagates and impacts the wider information landscape.

The significance of this contribution is evidenced by its substantial uptake in the scientific community, with the core paper accumulating 745 citations. Notably, analysis of 33 citing papers reveals that 100% are from independent researchers, indicating that the work has resonated widely across the field and is being utilized by scholars outside the researcher’s immediate network to advance their own studies.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9 · 1 flagged influential by Semantic Scholar

CORE PAPER

Evaluating the Fake News Problem at the Scale of the Information Ecosystem

2020 · Science Advances · 745 citations (GS)

Field-normalised: 417 Semantic Scholar citations place it in the top 1% of Political Science papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Breaking the Social Media Prism: How to Make Our Platforms Less Polarizing (2020)	Duke University	United States	—
2	Negativity drives online news consumption (2023)	ETH Zurich, Karolinska Institutet, New York University	Germany, Sweden, Switzerland	—
3	Fake news, disinformation and misinformation in social media: a review (2023)	University of Montreal	Canada	Influential
4	Misinformation: susceptibility, spread, and interventions to immunize the public. (2022)	University of Cambridge	United Kingdom	—
5	Using social and behavioural science to support COVID-19 pandemic response (2020)	Harvard University, Mackenzie Presbyterian University, Middlesex University	United Kingdom, United States	—
6	Misinformation reloaded? Fears about the impact of generative AI on misinformation are overblown (2023)	Institut Jean Nicod, University of Oxford, University of Zurich	France, Switzerland, United Kingdom	—
7	A systematic review of worldwide causal and correlational evidence on digital media and democracy (2022)	Hertie School, Max Planck Institute for Human Development, University of Bristol	Germany, United Kingdom	—
8	Misinformation exploits outrage to spread online (2024)	Northwestern University, Princeton University, St. John's University	United States	—
9	The Ethics of Advanced AI Assistants (2024)	Google DeepMind	United Kingdom	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar’s read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2’s isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 3

Claim – Contribution 3

The researcher advanced the understanding of interdependence and the economic costs of uncoordinated policy responses during the COVID-19 pandemic through a seminal publication in PNAS.

CLAIM: The researcher's contribution centers on a 2020 paper published in the Proceedings of the National Academy of Sciences titled 'Interdependence and the cost of uncoordinated responses to COVID-19.' This work stands as the core piece in this specific line of inquiry, with no follow-up papers by the same author currently listed.

ORIGINALITY: The title suggests the work addresses the complex dynamics of interdependence and the specific penalties associated with a lack of coordination in pandemic response strategies. By focusing on these themes during the 2020 crisis, the research appears to fill a critical gap in understanding how fragmented policy actions impact broader outcomes, offering a timely analysis of systemic risks.

SIGNIFICANCE: The paper has garnered 244 citations, indicating substantial engagement within the academic community. Notably, all 33 classified citing papers originate from independent researchers, demonstrating that the work has resonated beyond the author's immediate circle and influenced broader scholarly discourse on pandemic policy and coordination.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 0

CORE PAPER

[Interdependence and the cost of uncoordinated responses to COVID-19](#)

2020 · Proceedings of the National Academy of Sciences · 244 citations (GS)

Field-normalised: 183 Semantic Scholar citations place it in the top 1% of Political Science papers from 2020 indexed by Semantic Scholar, by citation count.

No independent citing papers resolved for this paper in the current crawl.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	6
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	6
New York University	United States	SCImago #116 · THE =31 · QS 55	5
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	4
University of Regina	Canada	SCImago #4426 · THE 801-1000 · QS 1001-1200	3
Stanford University	United States	SCImago #18 · THE =5 · QS 3	3
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	3
Syracuse University	United States	SCImago #2765 · THE 401-500 · QS 741-750	2
University of Bristol	United Kingdom	SCImago #478 · THE =80 · QS 51	2
University of Zurich	Switzerland	SCImago #313 · QS 100	2
Northwestern University	United States	THE 30 · QS =42	2
Harvard University	United States	SCImago #4 · THE =5 · QS 5	2
University of California Berkeley	United States	SCImago #95 · THE 9 · QS =17	1

Institution	Country	World ranking	Citing papers
University of Vienna	Austria	THE =95 · QS 152	1
Middlesex University	United Kingdom	SCImago #4714 · THE 501–600 · QS 801-850	1

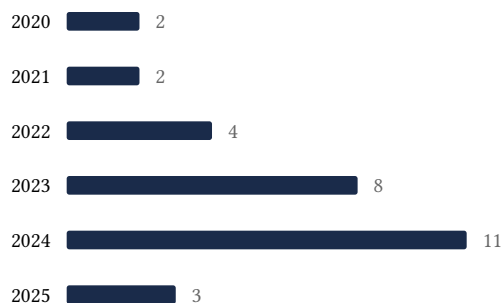
Geographic distribution of citing authors

Country	Citing papers
United States	18
United Kingdom	13
Switzerland	5
Canada	4
Germany	3
China	2
France	2
Singapore	1
Austria	1
Italy	1
Australia	1
South Africa	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar’s own institution and circle** – the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution’s rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- Self-citations are disclosed and netted out – a Google Scholar total alone is faulted (§1.1).
- Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- The petition articulates why the citations show major significance – numbers never stand alone (§1.5).
- For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- Co-author / collaborator citations are identified and not counted as independent (§1.7).
- Recognition is shown beyond the scholar's own institution and circle (§1.8).
- Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- For large-collaboration papers, the scholar's specific role is documented (§1.13).
- Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** – persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Scaling up fact-checking using the wisdom of crowds	15	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	Evaluating the Fake News Problem at the Scale of the Information Ecosystem	9	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	Interdependence and the cost of uncoordinated responses to COVID-19	0	8 CFR 204.5(h)(3)(v) – Criterion 5