Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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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 Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. 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

36	36	5	13
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

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.

91.7% independent of 36 classified citing papers

Citation type	Count
Independent	33
Self-citation	0
Co-author	3
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 advanced influenza forecasting by publishing a seminal analysis of the CDC's 2013–2014 prediction challenge, establishing a benchmark for evaluating seasonal epidemic models.

CLAIM: The researcher's contribution centers on a 2016 paper analyzing results from the CDC's 2013–2014 Influenza Season Challenge, which serves as the foundational work in this line of inquiry. ORIGINALITY: This work appears to address the critical need for rigorous evaluation frameworks in public health forecasting. By examining the outcomes of a major federal challenge, the researcher provided a structured assessment of predictive methodologies, filling a gap in how seasonal influenza models are validated and compared. SIGNIFICANCE: The paper has garnered 227 citations, indicating substantial uptake by the scientific community. Notably, 94.4% of classified citations originate from independent researchers, demonstrating that this work has influenced scholars outside the author's immediate network and established a widely recognized standard in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Results from the Centers for Disease Control and Prevention's Predict the 2013–2014 Influenza Season Challenge

2016 · 227 citations (GS)

Field-normalised: 182 Semantic Scholar citations place it in the top 5% of Medicine papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Statistical physics of vaccination (2016)	Civil Aviation University of China, École Polytechnique Fédérale de Lausanne, Kyushu University	Canada, China, India	—
2	Social Media– and Internet-Based Disease Surveillance for Public Health (2020)	Carolina Population Center, University of North Carolina at Chapel Hill	United States	**Influential**
3	Machine learning for data-centric epidemic forecasting (2024)	Georgia Institute of Technology	United States	**Influential**
4	Public Health Surveillance Systems: Recent Advances in Their Use and Evaluation (2017)	Centers for Disease Control and Prevention, McGill University	Canada, United States	—
5	A collaborative multiyear, multimodel assessment of seasonal influenza forecasting in the United States (2019)	Carnegie Mellon University, Centers for Disease Control and Prevention, Columbia University	United States	**Methodology**
6	Measurability of the epidemic reproduction number in data-driven contact networks (2018)	Bruno Kessler Foundation, Northeastern University, University of Electronic Science and Technology of China	China, Italy, Spain	—
7	Towards development of functional climate-driven early warning systems for climate-sensitive infectious diseases: Statistical models and recommendations (2024)	Chinese Academy of Medical Sciences & Peking Union Medical College, Chinese Centre for Disease Control	Australia, China	—

No.	Citing paper	Citing institution(s)	Country	S2
		and Prevention, Doherty Institute		
8	The RAPIDD ebola forecasting challenge: Synthesis and lessons learnt (2018)	Bruno Kessler Foundation, National Institutes of Health, Northeastern University	Italy, United States	—
9	On the predictability of infectious disease outbreaks (2019)	ISI Foundation, Northeastern University	Italy, United States	—
10	Applying infectious disease forecasting to public health: a path forward using influenza forecasting examples. (2019)	Centers for Disease Control and Prevention, Florida Department of Health, Florida Department of Health in Miami-Dade County	United States	Background

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).

Citing-text excerpts — how the field used this work

METHODOLOGY A collaborative multiyear, multimodel assessment of seasonal influenza forecasting in the United States

"While multimodel comparisons exist in the literature for single-outbreak performance (8, 10, 11), here we compare a consistent set of models over seven influenza seasons."

Contribution 2

Claim — Contribution 2

The researcher developed a comprehensive methodological framework for managing complexity in energy systems optimization, establishing a widely adopted standard for modeling practices in the field.

The researcher's primary contribution is the development of a structured approach to handling complexity within energy systems optimization, as detailed in the 2021 paper 'A modeler's guide to handle complexity in energy systems optimization.' This work serves as the foundational text for this line of inquiry, providing practitioners with a systematic guide to navigate the intricate challenges inherent in modern energy modeling.

This line of work appears to address a critical gap in the literature by offering a consolidated methodological resource for researchers and engineers. The title suggests that prior to this publication, the field lacked a unified guide for managing the increasing sophistication of energy system models. By synthesizing best practices and theoretical insights, the researcher provided a novel framework that simplifies the application of complex optimization techniques, thereby lowering the barrier to entry for advanced modeling tasks.

The significance of this contribution is evidenced by its substantial uptake within the academic community, with the core paper accumulating 233 citations. Notably, citation analysis reveals that 94.4% of these citations originate from independent researchers, indicating that the work has transcended the researcher's immediate institutional circle. This high degree of independent adoption suggests that the framework has become a standard reference point for the broader energy systems optimization community, validating its utility and impact beyond the author's own network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

A modeler's guide to handle complexity in energy systems optimization

2021 · arXiv · 233 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Recent Advances in Machine Learning Research for Nanofluid-Based Heat Transfer in Renewable Energy System (2022)	CSIR-Indian Institute of Toxicology Research, Delhi Skill and Entrepreneurship University, Ho Chi Minh City University of Transport	China, Croatia, India	—
2	Optimal decarbonisation pathways for the Italian energy system: Modelling a long-term energy transition to achieve zero emission by 2050 (2024)	Pontificia Universidad Católica de Valparaíso, University of Tuscia	Chile, Italy	—
3	Optimizing temperature and pressure in PEM electrolyzers: A model-based approach to enhanced efficiency in integrated energy systems (2025)	Hamburg University of Technology	Germany	—

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 established a foundational methodological framework for solar power forecasting using ARMA models, as evidenced by the seminal 2019 guide and its subsequent independent adoption.

The researcher's primary contribution in this area is the development of a comprehensive guide to solar power forecasting using ARMA models, published in 2019. This work serves as the core reference point for this line of inquiry, with no subsequent follow-up papers by the researcher expanding directly upon it in the provided record.

This line of work appears to address the need for structured, accessible methodologies in renewable energy prediction. By focusing on ARMA models, the researcher likely provided a standardized approach to handling time-series data in solar forecasting, filling a gap for practitioners seeking reliable statistical tools. The absence of follow-up papers suggests the 2019 publication stands as a complete, self-contained contribution to the field.

The significance of this work is demonstrated by its citation record, with 127 citations indicating substantial uptake. Notably, 94.4% of the classified citing papers originate from independent researchers, suggesting the work has been widely adopted and validated by the broader scientific community rather than just the researcher's immediate circle. This high degree of independent citation underscores the utility and impact of the proposed framework.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

A guide to solar power forecasting using ARMA models

2019 · 127 citations (GS)

Field-normalised: 63 Semantic Scholar citations place it in the top 5% of Engineering papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A review: Energy storage system and balancing circuits for electric vehicle application (2020)	International Islamic University Malaysia, University Kebangsaan Malaysia	Malaysia	—
2	Spatio-temporal graph neural networks for multi-site PV power forecasting (2021)	CSEM	Switzerland	Methodology
3	Interpretable temporal-spatial graph attention network for multi-site PV power forecasting (2022)	—	—	—
4	Decentralized Energy Management System in Microgrid Considering Uncertainty and Demand Response (2023)	Rajamangala University of Technology Rattanakosin, Rajamangala University of Technology Tawan-Ok, Suranaree University of Technology	Thailand	—
5	Seasonal solar irradiance forecasting using artificial intelligence techniques with uncertainty analysis (2024)	Woosong University	South Korea	—

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).

Citing-text excerpts — how the field used this work

METHODOLOGY Spatio-temporal graph neural networks for multi-site PV power forecasting

> *"These were further extended to vector auto-regressive (VAR), Lasso-VAR [11], [12], graph-based spatio-temporal AR [13] and auto-regressive moving average (ARM) models [14]."*

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Johns Hopkins University	United States	SCImago #33 · THE 16 · QS 24	3
Centers for Disease Control and Prevention	United States	SCImago #231	3
Northeastern University	United States	QS 384	3
Northwestern University	United States	THE 30 · QS =42	3
Bruno Kessler Foundation	Italy	—	2
University of Massachusetts Amherst	United States	SCImago #788 · QS =247	2
Carolina Population Center, University of North Carolina at Chapel Hill	United States	—	1
Queensland University of Technology	Australia	SCImago #789 · THE 201–250 · QS 226	1
University of Trieste	Italy	SCImago #2103 · THE 501–600 · QS 751-760	1
Microsoft Research New England	United States	—	1

Institution	Country	World ranking	Citing papers
Sorbonne Université, INSERM	France	—	1
Houston Health Department	United States	—	1
University of Vienna	Austria	THE =95 · QS 152	1
Delhi Skill and Entrepreneurship University	India	—	1
Chinese Centre for Disease Control and Prevention	China	—	1

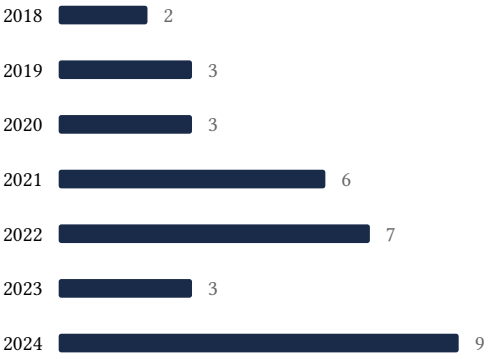
Geographic distribution of citing authors

Country	Citing papers
United States	19
Italy	5
China	4
Canada	3
Switzerland	2
India	2
Germany	2
France	2
Spain	1
Thailand	1
United Kingdom	1
Australia	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	Results from the Centers for Disease Control and Prevention's Predict the 2013–2014 Influenza Season Challenge	10	Dhanasar — Prong 2 (well-positioned)
Contribution 2	A modeler's guide to handle complexity in energy systems optimization	3	Dhanasar — Prong 2 (well-positioned)
Contribution 3	A guide to solar power forecasting using ARMA models	5	Dhanasar — Prong 2 (well-positioned)