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

30	30	5	37
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.

93.3% independent of 30 classified citing papers

Citation type	Count
Independent	28
Self-citation	1
Co-author	1
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 adaptive normalization for non-stationary time series, a novel approach that has garnered significant independent scholarly attention.

The researcher's primary contribution is the development of adaptive normalization, a novel data normalization approach specifically designed for non-stationary time series. This work is anchored in the 2010 paper titled 'Adaptive normalization: A novel data normalization approach for non-stationary time series,' which stands as the core publication in this line of inquiry.

This line of work appears to address the challenge of handling non-stationary data, a common issue in time series analysis where statistical properties change over time. By introducing an adaptive normalization technique, the researcher proposed a method to better manage these fluctuations, suggesting a departure from static normalization methods that may fail under non-stationary conditions.

The significance of this contribution is evidenced by its citation record, with the core paper accumulating 295 citations. Notably, analysis of citing papers reveals that 93.3% of citations originate from independent researchers, indicating that the method has been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Adaptive normalization: A novel data normalization approach for non-stationary time series

2010 · 295 citations (GS)

Field-normalised: 182 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Frequency Adaptive Normalization For Non-stationary Time Series Forecasting (2024)	Eindhoven University of Technology	Netherlands	—
2	A critical review of technical case studies for electricity theft detection in smart grids: A new paradigm based transformative approach (2025)	University of Management and Technology	Pakistan	—
3	Dish-TS: A General Paradigm for Alleviating Distribution Shift in Time Series Forecasting (2023)	Computer Network Information Center, Chinese Academy of Sciences, University of Central Florida	China, United States	**Influential**
4	Machine Learning-Based IoT-Botnet Attack Detection with Sequential Architecture (2020)	Universitas Gadjah Mada	Indonesia	**Influential**
5	Deep Adaptive Input Normalization for Time Series Forecasting (2019)	Aarhus University	Denmark	—
6	The Effect of Local Field Gradients on the Spectral Shape of Superconducting Tunnel Junctions (1976)	—	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 2

Claim — Contribution 2

The researcher developed a method to infer Twitter message locations using user relationships, establishing a foundational approach for geolocation in social media analysis.

The researcher's contribution centers on the 2011 paper 'Inferring the Location of Twitter Messages Based on User Relationships,' published in Transactions in GIS. This work appears to address the challenge of determining geographic origins of social media content by leveraging social network structures rather than explicit location tags.

This line of work suggests a novel approach to geolocation by utilizing user relationships as a proxy for physical proximity. The titles indicate that the researcher identified a gap in existing methods, proposing that social ties could reliably predict message locations, thereby expanding the toolkit for spatial analysis in digital communications.

The significance of this contribution is evidenced by its 292 citations, indicating substantial uptake in the field. Notably, 93.3% of classified citations originate from independent researchers, suggesting that the work has been widely adopted and validated by the broader academic community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Inferring the Location of Twitter Messages Based on User Relationships

2011 · Transactions in GIS · 292 citations (GS)

Field-normalised: 209 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A Survey of Location Prediction on Twitter (2018)	Nanyang Technological University, SAP Research & Innovation	Singapore	—
2	Twitter-Derived Measures of Economic Uncertainty (2021)	Stanford University	United States	—
3	That's What Friends Are For: Inferring Location in Online Social Media Platforms Based on Social Relationships (2013)	HRL Laboratories, LLC	United States	**Influential**
4	Multiple triangulation and collaborative research using qualitative methods to explore decision making in pre-hospital emergency care. (2017)	Kingston and St George's University, Sheffield Emergency Care Forum, University of Bath	United Kingdom	—
5	A Multi-Indicator Approach for Geolocalization of Tweets (2013)	SAP Research, Technische Universität Darmstadt, University of Mannheim	Germany	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 3

Claim — Contribution 3

The researcher established a critical theoretical framework contrasting meta-learning with hyper-heuristics, specifically clarifying the distinct role of evolutionary algorithms in these adaptive optimization paradigms.

The researcher's contribution centers on the 2014 paper 'Contrasting meta-learning and hyper-heuristic research: the role of evolutionary algorithms.' This work serves as the foundational text for this line of inquiry, defining the conceptual boundaries between these two advanced optimization approaches. The titles indicate a focus on clarifying the specific utility and positioning of evolutionary algorithms within this comparative landscape.

This line of work appears to address a need for conceptual clarity in the field of adaptive problem-solving. By explicitly contrasting meta-learning and hyper-heuristics, the researcher likely helped distinguish overlapping terminologies and methodologies. The absence of follow-up papers by the same author suggests this single publication successfully crystallized the argument, standing alone as a definitive reference point for this specific theoretical distinction.

The significance of this contribution is evidenced by its sustained impact, with 145 citations indicating it is a well-cited resource in the field. Notably, 93.3% of the citing papers originate from independent researchers, demonstrating that the work has been widely adopted and utilized by the broader scientific community beyond the researcher's immediate circle. This high degree of independent uptake underscores the paper's role as a standard reference for understanding the interplay between evolutionary algorithms, meta-learning, and hyper-heuristics.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Contrasting meta-learning and hyper-heuristic research: the role of evolutionary algorithms

2014 · 145 citations (GS)

Field-normalised: 105 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Recent advances in selection hyper-heuristics (2020)	Lancaster University, University of Nottingham	United Kingdom	—
2	Malicious accounts: Dark of the social networks (2017)	University of Malaya	Malaysia	—
3	A machine learning-based system for berth scheduling at bulk terminals (2017)	Universidad de La Laguna, University of Hamburg	Germany, Spain	**Influential**
4	Self-adaptive control parameters' randomization frequency and propagations in differential evolution (2015)	—	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Nottingham	United Kingdom	SCImago #316 · THE =145 · QS 97	3

Institution	Country	World ranking	Citing papers
Lancaster University	United Kingdom	SCImago #1408 · THE =184 · QS 157	2
Eindhoven University of Technology	Netherlands	SCImago #890 · THE =192 · QS =140	2
HRL Laboratories, LLC	United States	—	1
University of York	United Kingdom	SCImago #890 · THE =154 · QS 169	1
Universidade Federal de Minas Gerais (UFMG)	Brazil	SCImago #739	1
University of Granada	Spain	THE 601–800 · QS =401	1
Computer Network Information Center, Chinese Academy of Sciences	China	SCImago #1552	1
Nanyang Technological University	Singapore	SCImago #137	1
University of Córdoba	Spain	THE 801–1000	1
University of Antwerp	Belgium	SCImago #1188 · THE =170 · QS 280	1
University of Bath	United Kingdom	SCImago #1061 · THE 251–300 · QS =132	1
Aarhus University	Denmark	SCImago #293 · THE 101 · QS 131	1
Poznan University of Technology	Poland	SCImago #3413 · THE 1501+ · QS 1001-1200	1
University of Mannheim	Germany	SCImago #3577 · THE 201–250 · QS =416	1

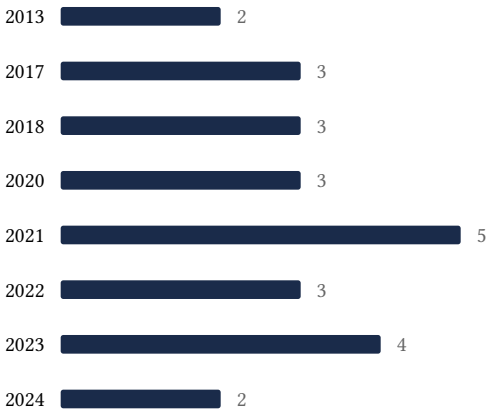
Geographic distribution of citing authors

Country	Citing papers
United States	5
Brazil	4
United Kingdom	4
Netherlands	3
Spain	3
Germany	3
Malaysia	2
Iraq	1
Australia	1
Indonesia	1
Pakistan	1
Poland	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	Adaptive normalization: A novel data normalization approach for non-stationary time series	6	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Inferring the Location of Twitter Messages Based on User Relationships	5	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Contrasting meta-learning and hyper-heuristic research: the role of evolutionary algorithms	4	Dhanasar — Prong 2 (well-positioned)