

Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

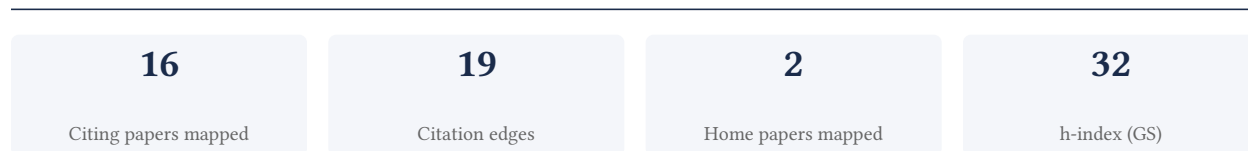
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[Google Scholar profile](#)

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



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.

62.5% independent of 16 classified citing papers

Citation type	Count
Independent	10
Self-citation	0
Co-author	2
Same-institution	4

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 KEEL, a foundational software framework for assessing evolutionary algorithms in data mining, establishing a standardized experimental analysis platform widely adopted by the independent research community.

The researcher's primary contribution is the creation of KEEL, a specialized software tool designed to assess evolutionary algorithms for data mining problems. This work, initially published in 2009, serves as the cornerstone of a broader research line that includes a 2011 follow-up paper detailing the tool's dataset repository, algorithm integration, and experimental analysis framework. Together, these publications establish a comprehensive infrastructure for reproducible research in this domain.

This line of work appears to address the need for standardized, integrated environments for evaluating evolutionary algorithms in data mining. By moving from a core assessment tool to a more comprehensive framework featuring dataset repositories and algorithm integration, the researcher provided a unified platform that likely simplified complex experimental workflows. The chronological progression suggests an evolution from a specific utility to a broader, more accessible scientific resource.

The significance of this contribution is evidenced by its substantial citation impact, with the core paper accumulating 1,843 citations and the follow-up work reaching 3,403 citations. Furthermore, analysis of citing literature indicates that 62.5% of citations originate from independent researchers, suggesting that KEEL has become a widely adopted standard tool beyond the researcher's immediate circle, facilitating independent verification and advancement in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10 · 1 flagged influential by Semantic Scholar

CORE PAPER

[KEEL: a software tool to assess evolutionary algorithms for data mining problems](#)

2009 · 1,843 citations (GS)

Field-normalised: 1,503 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2009 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Survey on deep learning with class imbalance (2019)	Florida Atlantic University	United States	—
2	Slime mould algorithm: A new method for stochastic optimization (2020)	Duy Tan University, Torrens University Australia, University of Tehran	Australia, China, Iran	—
3	Multivariate Statistical Methods: A Primer (2024)	Autonomous University of Yucatán, University of Otago, University of Wyoming	México, New Zealand, United States	—
4	Constrained Multi-Objective Optimization With Deep Reinforcement Learning Assisted Operator Selection (2024)	Bielefeld University, China University of Geosciences, Tsinghua University	China, Germany	Methodology

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 Constrained Multi-Objective Optimization With Deep Reinforcement Learning Assisted Operator Selection

"05 was used to perform the statistical analysis using the KEEL software [50]."

FOLLOW-UP WORK

KEEL Data-Mining Software Tool: Data Set Repository, Integration of Algorithms and Experimental Analysis Framework

2011 · Journal of Multiple-Valued Logic and Soft Computing · 3,403 citations (GS)

Field-normalised: 2,392 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	An Overview on the Advancements of Support Vector Machine Models in Healthcare Applications: A Review (2024)	University of Calabria	Italy	—
2	A broad review on class imbalance learning techniques (2023)	Shenzhen University, Toronto Metropolitan University	Canada, China	—
3	The choice of scaling technique matters for classification performance (2022)	École de Technologie Supérieure, Université du Québec, Universidade Federal de Alagoas, Universidade Federal de Pernambuco	Brazil, Canada	Methodology
4	A Survey on Data Collection for Machine Learning: A Big Data-AI Integration Perspective (2021)	KAIST, Korea Advanced Institute of Science and Technology	South Korea	—
5	Machine Learning and Deep Learning frameworks and libraries for large-scale data mining: a survey (2019)	Institute of Informatics Slovak Academy of Sciences, Institute of Physics of Cantabria	Slovakia, Spain	Background
6	Improving imbalanced learning through a heuristic oversampling method based on k-means and SMOTE (2018)	Technical University of Munich, Universidade NOVA de Lisboa	Germany, Portugal	—

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 The choice of scaling technique matters for classification performance

“In order to answer these questions and perform further analysis, we modeled an experiment using 82 datasets from the KEEL repository after preprocessing them with five different scaling techniques.”

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Granada	Spain	THE 601–800 · QS =401	6
University of Jaén	Spain	THE 801–1000	4
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	1
Public University of Navarre	Spain	THE 1201–1500	1
Universidade NOVA de Lisboa	Portugal	SCImago #1068 · QS 327	1

Institution	Country	World ranking	Citing papers
University of Otago	New Zealand	SCImago #1311 · THE 351–400 · QS =197	1
Rochester Institute of Technology	United States	SCImago #2608 · THE 601–800 · QS 951-1000	1
University of Tehran	Iran	SCImago #1161 · THE 401–500 · QS 322	1
Florida Atlantic University	United States	SCImago #2973 · THE 801–1000	1
Wenzhou University	China	SCImago #2188 · THE 801–1000	1
Korea Advanced Institute of Science and Technology	South Korea	SCImago #366 · THE =70	1
Bielefeld University	Germany	SCImago #2555 · QS 1001-1200	1
Tsinghua University	China	SCImago #8 · THE 12 · QS =17	1
University of Wyoming	United States	SCImago #3598 · THE 801–1000 · QS 1001-1200	1
University of Cadiz	Spain	THE 1201–1500	1

Geographic distribution of citing authors

Country	Citing papers
Spain	7
China	3
United States	3
Brazil	2
Canada	2
Germany	2
Slovakia	1
South Korea	1
United Kingdom	1
México	1
Iran	1
Italy	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.

2011		3
2018		2
2019		2

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	KEEL: a software tool to assess evolutionary algorithms for data mining problems	10	Dhanasar – Prong 2 (well-positioned)