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

14	14	3	108
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.

100.0% independent of 13 classified citing papers

Citation type	Count
Independent	13
Self-citation	0
Co-author	0
Same-institution	0

1 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 established a foundational framework for statistical learning, data mining, and prediction through a seminal 2009 text that has garnered over 100,000 citations.

CLAIM: The researcher's primary contribution is the development of a comprehensive framework for statistical learning, data mining, inference, and prediction, anchored by the 2009 publication titled 'The elements of statistical learning: data mining, inference, and prediction.'

ORIGINALITY: This work appears to address the need for a unified theoretical and practical approach to statistical learning. By synthesizing data mining, inference, and prediction into a single coherent text, the researcher provided a seminal resource that likely filled a critical gap in the literature, establishing a standard reference for the field.

SIGNIFICANCE: The impact of this contribution is evidenced by its extraordinary citation count of 103,768, indicating widespread adoption and influence. Furthermore, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers, underscoring the work's broad relevance and acceptance across the global scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

The elements of statistical learning: data mining, inference, and prediction

2009 · 103,768 citations (GS)

Field-normalised: 20,787 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	Rewrite the Stars (2024)	Microsoft, Northeastern University	United States	—
2	A Comprehensive Survey of Continual Learning: Theory, Method and Application	Tsinghua University	China	—
3	Is Your Code Generated by ChatGPT Really Correct? Rigorous Evaluation of Large Language Models for Code Generation	—	—	—
4	UMAP: Uniform Manifold Approximation and Projection for Dimension Reduction (2018)	Independent Researcher, Tutte Institute for Mathematics and Computing	Canada	—

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 introduced gradient boosting machines via greedy function approximation, establishing a foundational framework for ensemble learning that has achieved widespread independent adoption.

The researcher's primary contribution is the introduction of gradient boosting machines through the seminal 2001 paper titled 'Greedy function approximation: a gradient boosting machine.' This work stands as the core pillar of this research line, with no subsequent follow-up papers by the same author listed in the provided data.

This line of work appears to address the need for efficient function approximation methods by framing boosting as a greedy optimization process. The title suggests a novel methodological approach that generalizes boosting algorithms, offering a flexible framework for minimizing arbitrary loss functions rather than being limited to specific classification or regression tasks.

The significance of this contribution is evidenced by its extensive citation record, with over 41,000 citations indicating profound influence on the field. Furthermore, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers, underscoring the work's broad acceptance and utility across the global scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Greedy function approximation: a gradient boosting machine

2001 · 41,609 citations (GS)

Field-normalised: 28,574 Semantic Scholar citations place it in the top 1% of Computer Science papers from 2001 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The simple macroeconomics of AI (2025)	Massachusetts Institute of Technology	United States	—
2	Interpreting Black-Box Models: A Review on Explainable Artificial Intelligence	Birla Institute of Technology and Science, Birla Institute of Technology and Science (BITS), BITS Pilani	China, India, Italy	—
3	Are Transformers Effective for Time Series Forecasting?	International Digital Economy Academy, The Chinese University of Hong Kong	China, Hong Kong	—
4	Accurate predictions on small data with a tabular foundation model (2025)	Prior Labs, University of Freiburg	Germany	—
5	A comprehensive review on ensemble deep learning: Opportunities and challenges	University of Mosul	Iraq	—

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 foundational framework for classification and regression trees, a seminal contribution that has become a standard reference in statistical learning.

CLAIM: The researcher's primary contribution is the development of a comprehensive framework for classification and regression trees, as detailed in the seminal 2017 paper. This work serves as the cornerstone of the researcher's cited output, standing alone without direct follow-up publications by the same author in the provided dataset.

ORIGINALITY: The title suggests a systematic approach to organizing and applying tree-based methods for both classification and regression tasks. By consolidating these techniques, the work appears to address the need for a unified theoretical and practical guide, distinguishing itself through its comprehensive scope rather than incremental updates.

SIGNIFICANCE: The paper has garnered over 70,000 citations, indicating widespread adoption and influence across the field. Analysis of citing literature reveals that 100% of the sampled citations originate from independent researchers, demonstrating that the work has been embraced by the broader scientific community rather than relying on self-citation or institutional clustering.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Classification and regression trees

2017 · 70,733 citations (GS)

Field-normalised: 16,800 Semantic Scholar citations place it in the top 1% of Medicine papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Machine learning: Algorithms, real-world applications and research directions (2021)	Chittagong University of Engineering & Technology, Swinburne University of Technology	Australia, Bangladesh	—
2	A Practical Guide to Shift-Share Instruments (2025)	Brown University, London School of Economics and Political Science, University of California, Berkeley	United Kingdom, United States	—
3	Thermal coal futures trading volume predictions through the neural network (2024)	Advanced Micro Devices (China) Co., Ltd., North Carolina State University	China, United States	—
4	A Review of ARIMA vs. Machine Learning Approaches for Time Series Forecasting in Data Driven Networks (2023)	National Technical University of Athens	Greece	—

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
Xi'an Jiaotong-Liverpool University	China	SCImago #4167 · THE 601–800 · QS 1001-1200	1
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	1
North Carolina State University	United States	SCImago #484 · THE 301–350 · QS =272	1
University of Freiburg	Germany	THE =138	1
London School of Economics and Political Science	United Kingdom	SCImago #1403 · THE 52 · QS 56	1

Institution	Country	World ranking	Citing papers
University of California, Berkeley	United States	SCImago #95 · THE 9 · QS =17	1
Independent Researcher	United States	—	1
Northeastern University	United States	QS 384	1
Microsoft	United States	—	1
Jaypee Institute of Information Technology	India	SCImago #7971	1
National Technical University of Athens	Greece	SCImago #2599 · THE 801–1000 · QS =355	1
International Digital Economy Academy	China	—	1
Sapienza University of Rome	Italy	THE =170 · QS 128	1
The Chinese University of Hong Kong	Hong Kong	SCImago #163 · THE =41 · QS =32	1
Swinburne University of Technology	Australia	SCImago #1396 · THE 251–300 · QS =294	1

Geographic distribution of citing authors

Country	Citing papers
United States	5
China	4
United Kingdom	2
Germany	1
Greece	1
Australia	1
India	1
Iraq	1
Italy	1
Saudi Arabia	1
Hong Kong	1
Bangladesh	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	The elements of statistical learning: data mining, inference, and prediction	4	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Greedy function approximation: a gradient boosting machine	5	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Classification and regression trees	4	Dhanasar — Prong 2 (well-positioned)