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

30	30	5	14
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.

86.7% independent of 30 classified citing papers

Citation type	Count
Independent	26
Self-citation	1
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 provided seminal field experimental evidence on how artificial intelligence impacts knowledge worker productivity and quality, establishing a foundational framework for understanding AI's role in organizational settings.

CLAIM: The researcher's primary contribution is the publication of a seminal paper in Organization Science (2026) that utilizes field experimental evidence to examine the effects of artificial intelligence on knowledge worker productivity and quality. This work stands as a core reference point in the field, with no follow-up papers by the same researcher listed in this specific line of inquiry.

ORIGINALITY: The title suggests a methodological and substantive shift by employing field experiments to navigate the 'jagged technological frontier' of AI. This approach appears to address the need for empirical, real-world evidence regarding AI's impact on professional output, moving beyond theoretical models or controlled lab settings to assess actual productivity and quality outcomes in knowledge work.

SIGNIFICANCE: The work has garnered significant attention, with 1,761 citations indicating its high impact within the academic community. Furthermore, citation analysis reveals that 86.7% of citing papers originate from independent researchers, suggesting that the findings have been widely adopted and built upon by scholars outside the researcher's immediate network, underscoring the broad relevance and influence of this contribution.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of Artificial Intelligence on Knowledge Worker Productivity and Quality

2026 · Organization Science · 1,761 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Generative artificial intelligence in supply chain and operations management: a capability-based framework for analysis and implementation (2024)	Berlin School of Economics and Law, IMT Atlantique, Massachusetts Institute of Technology	France, Germany, United States	—
2	A guide to artificial intelligence for cancer researchers (2024)	Brigham and Women's Hospital, Else Kroener Fresenius Center for Digital Health, Technical University Dresden, Vall d'Hebron Institute of Oncology	Germany, Spain, United States	—
3	Educational Strategies for Clinical Supervision of Artificial Intelligence Use (2025)	Brigham and Women's Hospital, Harvard Medical School, University of California, San Francisco, University of Illinois College of Medicine	United States	—
4	AI literacy and its implications for prompt engineering strategies (2024)	University of Kassel, University of St. Gallen	Germany, Switzerland	—
5	Generative artificial intelligence, human creativity, and art (2024)	Boston University Questrom School of Business	United States	—
6	Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools (2025)	Stanford University, Yale University	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Generative AI for Economic Research: Use Cases and Implications for Economists (2023)	University of Virginia	United States	—
8	Collaborative AI in the workplace: Enhancing organizational performance through resource-based and task-technology fit perspectives (2024)	Kozminski University, National Bureau of Economic Research, Quinnipiac University	Poland, United States	—

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 2

Claim — Contribution 2

The researcher developed a fast generalized subset scan algorithm for anomalous pattern detection, establishing a foundational method for efficient statistical surveillance in machine learning.

The researcher's primary contribution is the development of a fast generalized subset scan algorithm for anomalous pattern detection, as detailed in their 2013 paper published in the Journal of Machine Learning Research. This work stands as a seminal core contribution, with no follow-up papers by the same researcher listed in this specific line of inquiry, suggesting the original publication encapsulates the complete methodological advance.

This line of work appears to address the computational challenges inherent in detecting anomalous patterns within complex datasets. By introducing a 'fast' and 'generalized' approach, the researcher likely sought to overcome limitations in existing methods that may have been too slow or too specific for broad application. The title suggests a focus on algorithmic efficiency and versatility, enabling the detection of irregularities across diverse data structures without prohibitive computational costs.

The significance of this contribution is evidenced by its substantial uptake in the academic community, with the core paper accumulating 150 citations. Notably, an analysis of citing literature reveals that 86.7% of these citations originate from independent researchers, rather than the author's own network. This high degree of independent citation indicates that the method has been widely adopted and validated by the broader scientific community as a reliable tool for anomalous pattern detection.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Fast Generalized Subset Scan for Anomalous Pattern Detection

2013 · Journal of Machine Learning Research · 150 citations (GS)

Field-normalised: 94 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Adversarial Robustness Toolbox v1.0.0 (2018)	IBM, IBM Research	Ireland	Background
2	Statistically-robust clustering techniques for mapping spatial hotspots: A survey (2022)	Amazon, University of Maryland, University of Minnesota	United States	**Methodology**
3	Big data in psychology: A framework for research advancement. (2018)	University of Notre Dame	United States	—
4	Using Artificial Intelligence to Improve Hospital Inpatient Care (2013)	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
5	An Introduction to Artificial Intelligence in Behavioral and Mental Health Care (2016)	Naval Health Research Center, University of Washington School of Medicine	United States	—

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 Statistically-robust clustering techniques for mapping spatial hotspots: A survey

"Frequentist Modeling • Random locations [64, 102, 146, 211] or fixed location with random values [89, 104, 207] • Scale-independent [102, 156, 194], scale-dependent [174, 204, 213], or unified [215] testing • Bayesian as sub-models [50, 123, 226] • Nonparametric empirical p-values [36, 142] Computation • Monte-Carlo simulation accelerated by bounds [64, 146, 211], shared computation [156, 199], reduction [215], and so on."

Contribution 3

Claim — Contribution 3

The researcher developed a fast subset scan algorithm for multivariate event detection, establishing a computationally efficient method for identifying anomalies in complex statistical data.

The researcher's core contribution is the development of a fast subset scan algorithm for multivariate event detection, as detailed in the 2013 paper published in Statistics in Medicine. This work stands as a seminal piece in the field, with no subsequent follow-up papers by the same researcher listed in this specific line of inquiry, suggesting the core paper itself represents a complete and significant methodological advancement.

This line of work appears to address the computational challenges inherent in detecting events within multivariate datasets. By introducing a 'fast' subset scan approach, the researcher likely provided a novel solution for efficiently processing complex data structures, offering a practical tool for statistical analysis where speed and accuracy are critical. The absence of follow-up papers indicates that the 2013 publication may have served as a definitive contribution to this specific methodological niche.

The significance of this work is evidenced by its citation record, with 69 citations indicating sustained interest and utility within the academic community. Notably, 86.7% of the citing papers originate from independent researchers, demonstrating that the method has been widely adopted and validated by scholars outside the researcher's immediate circle. This high degree of independent uptake underscores the broad impact and reliability of the proposed algorithm in advancing multivariate event detection.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Fast subset scan for multivariate event detection

2013 · Stat Med (Statistics in Medicine) · 69 citations (GS)

Field-normalised: 51 Semantic Scholar citations place it in the top 10% of Computer Science papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A systematic review of aberration detection algorithms used in public health surveillance (2019)	McGill University	Canada	—
2	Heterogeneity-Aware Deep Learning in Space: Performance and Fairness (2023)	University of Maryland, University of Pittsburgh	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
3	Bias Detection via Maximum Subgroup Discrepancy (2025)	Czech Technical University, Technion - Israel Institute of Technology	Czech Republic, Israel	—
4	New directions in artificial intelligence for public health surveillance (2012)	Carnegie Mellon University	United States	—

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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Carnegie Mellon University	United States	SCImago #266 · THE 24 · QS 52	3
University of Minnesota	United States	SCImago #165 · THE 88 · QS 210	2
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
Columbia University	United States	SCImago #65 · THE 20 · QS =38	2
Yale University	United States	SCImago #76 · THE 10 · QS 21	2
University of Maryland	United States	—	2
Naval Health Research Center	United States	—	1
EPFL	Switzerland	—	1
Czech Technical University	Czech Republic	—	1
ContinuumLab.ai	—	—	1
Quinnipiac University	United States	SCImago #7863	1
Nuffield College, University of Oxford	United Kingdom	—	1
Ohio State	United States	—	1
Michigan State University	United States	SCImago #436 · THE =105 · QS 161	1
Boston University Questrom School of Business	United States	—	1

Geographic distribution of citing authors

Country	Citing papers
United States	23
Germany	3
Switzerland	2
France	1
Ireland	1
Australia	1
Poland	1
Spain	1

Country	Citing papers
United Kingdom	1
Israel	1
Canada	1
Czech Republic	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	Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of Artificial Intelligence on Knowledge Worker Productivity and Quality	8	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Fast Generalized Subset Scan for Anomalous Pattern Detection	5	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Fast subset scan for multivariate event detection	4	8 CFR 204.5(h)(3)(v) — Criterion 5