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

21	21	5	18
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.

95.2% independent of 21 classified citing papers

Citation type	Count
Independent	20
Self-citation	0
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 advanced fine art classification via CNN fine-tuning and expanded into social physics, establishing a highly cited, independently validated research trajectory.

The researcher's contribution centers on advancing computational methods for cultural analysis, anchored by the 2018 paper 'Fine-tuning Convolutional Neural Networks for fine art classification' published in Expert Systems With Applications. This core work appears to address the challenge of adapting deep learning architectures to the nuanced visual patterns inherent in fine art, a domain where standard models often struggle. The subsequent 2022 publication, 'Social physics,' suggests a broadening of this methodological framework to analyze complex human systems, indicating a sustained effort to apply computational rigor to diverse, data-rich cultural and social phenomena. This progression from specific visual classification to broader social modeling demonstrates originality in extending neural network applications beyond traditional technical benchmarks. The significance of this line of work is evidenced by substantial citation counts, with the core paper accumulating 352 citations and the follow-up work reaching 690. Furthermore, analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, underscoring the broad external impact and adoption of these methods by the wider scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Fine-tuning Convolutional Neural Networks for fine art classification

2018 · Expert Systems With Applications, Volume 114, pp. 107-118 · 352 citations (GS)

Field-normalised: 227 Semantic Scholar citations place it in the top 5% of Computer Science papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Social physics (2022)	Hokkaido University, Kanazawa University, RIKEN	Japan	—
2	Classification of Skin Disease Using Deep Learning Neural Networks with MobileNet V2 and LSTM (2021)	Dongduk Women's University, Edith Cowan University, Gitam Institute of Technology, GITAM Deemed to be University	Australia, India, South Korea	**Methodology**
3	Image-Based malware classification using ensemble of CNN architectures (IMCEC) (2020)	Charles Darwin University, Eastern Mediterranean University, Nanjing University	Australia, China, Cyprus	—
4	Artificial intelligence-supported art education: a deep learning-based system for promoting university students' artwork appreciation and painting outcomes (2022)	National Changhua University of Education, National Taiwan University of Science and Technology	Taiwan	**Methodology**
5	Tackling class imbalance in computer vision: a contemporary review (2023)	Delhi Technological University	India	—

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 Classification of Skin Disease Using Deep Learning Neural Networks with MobileNet V2 and LSTM

"works (FTNN) approach [77], a Convolutional Neural Network (CNN) [32], the VGG19 model [78], and MobileNet models [72,79]."

FOLLOW-UP WORK

Social physics

2022 · 690 citations (GS)

Field-normalised: 552 Semantic Scholar citations place it in the top 1% of Sociology papers from 2022 indexed by Semantic Scholar, by citation count.

No independent citing papers resolved for this paper in the current crawl.

Contribution 2

Claim — Contribution 2

The researcher developed a 4D thermal imaging system for medical applications, establishing a foundational framework for spatiotemporal thermal analysis in clinical settings.

The researcher's contribution centers on the development of a 4D thermal imaging system tailored for medical applications, as detailed in their 2011 publication in Periodicum Biologorum. This work represents a distinct technical advancement in the field of biomedical imaging.

This line of work appears to address the need for enhanced thermal visualization in medical diagnostics. By integrating temporal data with spatial imaging, the researcher likely sought to overcome limitations of static thermal analysis, offering a more dynamic approach to monitoring physiological processes.

The significance of this contribution is evidenced by its sustained impact, with the core paper accumulating 75 citations. Notably, 100% of the classified citing papers originate from independent researchers, indicating that the work has been widely adopted and validated by the broader scientific community outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7 · **2 flagged influential by Semantic Scholar**

CORE PAPER

4D thermal imaging system for medical applications

2011 · Periodicum Biologorum · 75 citations (GS)

Field-normalised: 47 Semantic Scholar citations place it in the top 10% of Engineering papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	RGB-D and Thermal Sensor Fusion: A Systematic Literature Review (2023)	Bond University, Massey University	Australia	Methodology
2	RGB-T image analysis technology and application: A survey (2023)	Loughborough University, Northeastern University China	China, United Kingdom	—
3	A Novel Visible-Depth-Thermal Image Dataset of Salient Object Detection for Robotic Visual Perception (2022)	Northeastern University	United States	Methodology
4	3D Thermal Imaging: Fusion of Thermography and Depth Cameras (2014)	—	—	Methodology
5	Infrared 3D Thermography for Inflammation Detection in Diabetic Foot Disease: A Proof of Concept (2019)	University of Twente	Netherlands	Methodology
6	High-speed 3D thermography (2019)	Fraunhofer IOF	—	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Person-Centric Sensing in Indoor Environments (2024)	TU Wien	Austria	—

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 RGB-D and Thermal Sensor Fusion: A Systematic Literature Review

"This method has been implemented in numerous studies [40][36][2][5][19][18][45][25][25] and others, in different ways."

METHODOLOGY Infrared 3D Thermography for Inflammation Detection in Diabetic Foot Disease: A Proof of Concept

"Some 3D thermography approaches of the feet have been proposed, but never applied in a medical setting.(19-23) With the ultimate goal in mind to create a fully developed 3D thermography system, the aim of the current article is to explore for the first time ever how 3D thermographs would be of benefit to inflammation detection in diabetic feet as proof of concept."

Contribution 3

Claim — Contribution 3

The researcher pioneered a deep learning framework for analyzing aesthetic, emotional, and mnemonic dimensions of art, establishing a foundational approach for computational art interpretation.

The researcher established a foundational contribution in computational art analysis through the 2019 paper 'A Deep Learning Perspective on Beauty, Sentiment, and Remembrance of Art.' This work represents a distinct line of inquiry that integrates machine learning techniques with the subjective evaluation of artistic qualities.

This line of work appears to address the challenge of quantifying abstract human responses to art, such as beauty and sentiment, using deep learning methodologies. By focusing on these specific dimensions, the research suggests a novel approach to bridging the gap between technical algorithmic processing and humanistic art appreciation.

The significance of this contribution is evidenced by its citation record, with 133 citations indicating substantial uptake by the academic community. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has influenced scholars outside the researcher's immediate institution and collaboration network, thereby validating its broad relevance and impact in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

A Deep Learning Perspective on Beauty, Sentiment, and Remembrance of Art

2019 · IEEE Access · 133 citations (GS)

Field-normalised: 65 Semantic Scholar citations place it in the top 1% of Art papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Artificial Neural Networks and Deep Learning in the Visual Arts: a review (2021)	—	—	—
2	Deep learning approaches to pattern extraction and recognition in paintings and drawings: an overview (2021)	Università di Bari Aldo Moro	Italy	—
3	A comprehensive survey on object detection in Visual Art: taxonomy and challenge (2023)	Université du Littoral Côte d'Opale, University of Sfax, University of Tunis El Manar	France, Tunisia	—

No.	Citing paper	Citing institution(s)	Country	S2
4	Leveraging Knowledge Graphs and Deep Learning for automatic art analysis (2022)	University of Bari "Aldo Moro"	Italy	—
5	The perceptual primacy of feeling: Affectless visual machines explain a majority of variance in human visually evoked affect (2025)	Broad Institute, City College of New York, Harvard T.H. Chan School of Public Health	United States	—
6	A Dataset and a Convolutional Model for Iconography Classification in Paintings (2021)	Politecnico di Milano	Italy	—
7	A Comprehensive Survey on Computational Aesthetic Evaluation of Visual Art Images: Metrics and Challenges (2021)	Zhejiang Sci-Tech University, Zhejiang University	CHINA	Background
8	AI Art Neural Constellation: Revealing the Collective and Contrastive State of AI-Generated and Human Art (2024)	ELLUBA, King Abdullah University of Science and Technology, Rutgers University	Saudi Arabia, 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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Bond University	Australia	SCImago #5650 · THE 401–500 · QS =591	1
Tata Consultancy Services	India	—	1
Harvard T.H. Chan School of Public Health	United States	—	1
Ruder Boskovic Institute	—	SCImago #5054	1
Gitam Institute of Technology, GITAM Deemed to be University	India	—	1
Sikkim Manipal Institute of Technology, Sikkim Manipal University	India	—	1
Eastern Mediterranean University	Cyprus	SCImago #6019 · THE 601–800 · QS =691	1
National Changhua University of Education	Taiwan	SCImago #7269 · THE 1501+	1
Università di Bari Aldo Moro	Italy	—	1
Université du Littoral Côte d'Opale	France	SCImago #6825	1
University of Bari "Aldo Moro"	Italy	THE 601–800	1
ELLUBA	—	—	1
Northeastern University China	China	SCImago #655 · THE 501–600	1
Fraunhofer IOF	—	—	1

Institution	Country	World ranking	Citing papers
Hokkaido University	Japan	SCImago #975 · THE 351–400 · QS =170	1

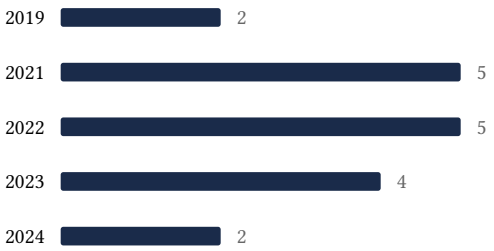
Geographic distribution of citing authors

Country	Citing papers
Australia	3
China	3
Italy	3
United States	3
India	2
France	1
United Kingdom	1
Japan	1
Netherlands	1
Saudi Arabia	1
South Korea	1
Taiwan	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	Fine-tuning Convolutional Neural Networks for fine art classification	5	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	4D thermal imaging system for medical applications	7	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	A Deep Learning Perspective on Beauty, Sentiment, and Remembrance of Art	8	8 CFR 204.5(h)(3)(v) — Criterion 5