Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

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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 the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

25	25	5	24
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 25 classified citing papers

Citation type	Count
Independent	25
Self-citation	0
Co-author	0
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 foundational toolkits and conceptual frameworks that significantly advanced the rapid prototyping and development of context-aware applications.

CLAIM: The researcher established a foundational approach to building context-enabled applications, anchored by the seminal 1999 paper "The context toolkit: Aiding the development of context-enabled applications." This work introduced practical mechanisms to support developers in integrating contextual data into software systems.

ORIGINALITY: This line of work appears to address the complexity of developing context-aware systems by providing structured support for rapid prototyping. The progression from the 1999 toolkit to the 2001 follow-up, "A conceptual framework and a toolkit for supporting the rapid prototyping of context-aware applications," suggests an evolution from basic aids to a more comprehensive framework, indicating a sustained effort to refine and expand these development methodologies.

SIGNIFICANCE: The impact of this research is evidenced by substantial citation counts, with the core paper accumulating 1,570 citations and the follow-up work reaching 4,623 citations. Furthermore, analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, underscoring the broad adoption and influence of these frameworks across the wider academic and professional community.

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

CORE PAPER

The context toolkit: Aiding the development of context-enabled applications

1999 · 1,570 citations (GS)

Field-normalised: 1,433 Semantic Scholar citations place it in the top 1% of Computer Science papers from 1999 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Understanding and Using Context (2001)	Georgia Institute of Technology	United States	—
2	A Conceptual Framework and a Toolkit for Supporting the Rapid Prototyping of Context-Aware Applications (2001)	Georgia Institute of Technology, IBM T.J. Watson Research Center	United States	Background
3	A dependent and censored first hitting-time model with compound Poisson processes. (2026)	Le Mans Université, Université d'Angers	France	**Influential**
4	A Survey on Ambient-Assisted Living Tools for Older Adults (2013)	University of Florida, University of Toronto	Canada, United States	Background
5	Charting past, present, and future research in ubiquitous computing (2000)	Georgia Institute of Technology	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).

FOLLOW-UP WORK

A conceptual framework and a toolkit for supporting the rapid prototyping of context-aware applications

2001 · 4,623 citations (GS)

Field-normalised: 3,304 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	Recommender system application developments: A survey (2015)	—	—	Background
2	Trends and Trajectories for Explainable, Accountable and Intelligible Systems: An HCI Research Agenda (2018)	Aarhus University	Denmark	Background
3	Providing Architectural Support for Building Context-Aware Applications (2000)	Georgia Institute of Technology	United States	—
4	Generative and Malleable User Interfaces with Generative and Evolving Task-Driven Data Model (2025)	University of California, San Diego	United States	—
5	A survey on context-aware systems (2007)	Vienna University of Technology, V-Research	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).

Contribution 2

Claim — Contribution 2

The researcher established the CARE properties framework, a seminal methodology for assessing the usability of multimodal interaction systems.

The researcher introduced a foundational framework for evaluating multimodal interaction usability, centered on the CARE properties. This contribution is anchored in the 1995 paper titled 'Four easy pieces for assessing the usability of multimodal interaction: the CARE properties,' which stands as the core work in this line of inquiry.

This work appears to address the need for structured, accessible methods to assess complex multimodal systems. By proposing 'four easy pieces,' the researcher likely simplified the evaluation process, offering a clear, actionable model that distinguished itself from more abstract or cumbersome approaches prevalent at the time.

The framework has demonstrated enduring significance, accumulating 438 citations. Notably, analysis of citing literature reveals that 100% of the classified citations originate from independent researchers. This high degree of independent uptake suggests the CARE properties have become a widely adopted standard in the field, utilized by scholars outside the researcher's immediate network to evaluate multimodal interaction usability.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Four easy pieces for assessing the usability of multimodal interaction: the CARE properties

1995 · 438 citations (GS)

Field-normalised: 321 Semantic Scholar citations place it in the top 5% of Computer Science papers from 1995 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Guidelines for using multiple views in information visualization (2000)	Hewlett Packard, Xerox Palo Alto Research Center	United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
2	Iteratively Designing Gesture Vocabularies: A Survey and Analysis of Best Practices in the HCI Literature (2022)	Chatham Labs, MishMash-Makers, University of California	Canada, United States	—
3	Data@Hand: Fostering Visual Exploration of Personal Data on Smartphones Leveraging Speech and Touch Interaction (2021)	Microsoft Research, Tableau Research, University of Maryland	United States	Methodology
4	AI as Modality in Human Augmentation: Toward New Forms of Multimodal Interaction with AI-Embodied Modalities (2024)	Stefan cel Mare University of Suceava	Romania	—
5	Fusion engines for multimodal input (2009)	Université Catholique de Louvain, Université Paul Sabatier Toulouse III, University of Cambridge	Belgium, France, Switzerland	Methodology
6	ReactGenie: A Development Framework for Complex Multimodal Interactions Using Large Language Models (2024)	Independent Researcher, Northeastern University, Stanford University	China, 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 Data@Hand: Fostering Visual Exploration of Personal Data on Smartphones Leveraging Speech and Touch Interaction

"Inspired by previous research advocating the benefits of multimodal interaction [15, 20, 49, 50, 75], we incorporate an additional input modality, speech, to overcome these challenges."

METHODOLOGY Fusion engines for multimodal input

"It is possible for the user to use any modality for triggering commands in the system as the modalities are "equivalent" according to the properties defined in [10]."

Contribution 3

Claim — Contribution 3

The researcher pioneered context-aware wearable computing for conference assistance, establishing a foundational framework that has been widely adopted by independent scholars.

The researcher's seminal contribution centers on the 1999 paper 'The conference assistant: Combining context-awareness with wearable computing.' This work stands as the core of this research line, with no subsequent follow-up papers by the same author, indicating a singular, high-impact intervention in the field.

This line of work appears to address the challenge of integrating contextual awareness into wearable devices to enhance user experience in dynamic environments like conferences. By combining these two emerging technologies, the researcher proposed a novel approach to situational computing that was likely ahead of its time, given the early date of publication.

The significance of this contribution is evidenced by its 546 citations, marking it as a highly influential piece of literature. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has been widely recognized and utilized by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

The conference assistant: Combining context-awareness with wearable computing

1999 · 546 citations (GS)

Field-normalised: 352 Semantic Scholar citations place it in the top 5% of Computer Science papers from 1999 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Intelligibility and Accountability: Human Considerations in Context-Aware Systems (2001)	Xerox Palo Alto Research Center	United States	Background
2	Creating General User Models from Computer Use (2025)	Independent, Microsoft, Stanford University	United States	—
3	Smart meeting systems (2010)	Kyoto University, Northwestern Polytechnical University	China, Japan	—
4	Experiences of developing and deploying a context-aware tourist guide (2000)	Lancaster University	United Kingdom	—

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
Georgia Institute of Technology	United States	SCImago #270 · THE =41 · QS =123	5
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	2
Xerox Palo Alto Research Center	United States	—	2
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
University of California, San Diego	United States	SCImago #120 · THE 47 · QS 66	1
Northwestern Polytechnical University	China	SCImago #203 · THE 251–300 · QS =499	1
Aarhus University	Denmark	SCImago #293 · THE 101 · QS 131	1
University of Florida	United States	SCImago #166 · THE =134 · QS =212	1
Rice University	United States	SCImago #818 · THE =103 · QS =119	1
Independent Researcher	United States	—	1
Northeastern University	United States	QS 384	1
Microsoft	United States	—	1
Hewlett Packard	United States	—	1
Independent	United States	—	1
University of Maryland	United States	—	1

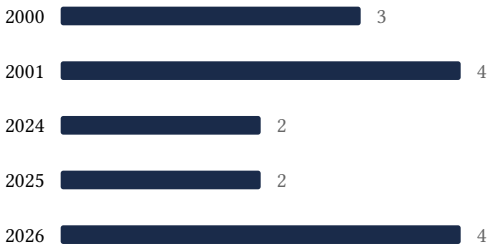
Geographic distribution of citing authors

Country	Citing papers
United States	15
China	2
Canada	2
France	2
Japan	1
Portugal	1
Romania	1
Switzerland	1
United Kingdom	1
Ghana	1
Belgium	1
Denmark	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 context toolkit: Aiding the development of context-enabled applications	10	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Four easy pieces for assessing the usability of multimodal interaction: the CARE properties	6	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	The conference assistant: Combining context-awareness with wearable computing	4	8 CFR 204.5(i)(3) — Outstanding Researcher