

# Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

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

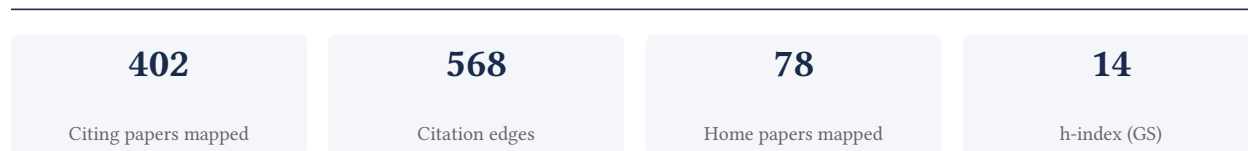
## Zhichao Zuo

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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



### 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.

**89.0% independent** of 173 classified citing papers

Citation type	Count
Independent	154
Self-citation	18
Co-author	0
Same-institution	1

229 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 a novel framework combining MRI morphological features, radiomics, and deep learning to predict lymphovascular invasion in breast cancer, establishing a reproducible methodology for non-invasive biomarker assessment.*

The researcher established a foundational approach for assessing lymphovascular invasion in breast cancer through the 2024 core paper, which integrates dynamic contrast-enhanced MRI morphological features with radiomics and deep learning. This work serves as the technical basis for subsequent advancements in the field.

This line of work appears to address the need for precise, non-invasive preoperative prediction tools. The originality lies in the synthesis of multiple imaging data modalities. Follow-up papers from 2025 extend this methodology, applying delta-radiomics and TabPFN models to breast cancer and adapting the radiomics-clinical biomarker framework to predict chemotherapy response in gastric cancer, suggesting a versatile and evolving analytical pipeline.

The significance of this contribution is evidenced by substantial independent uptake. With 47 citations for the core paper and additional citations for the follow-up works, the research has garnered attention from the broader scientific community. Notably, 89.0% of the 173 classified citations originate from independent researchers, indicating that the methodology has been adopted and validated by peers outside the researcher's immediate institution and collaboration network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 19

#### CORE PAPER

### [Assessment of lymphovascular invasion in breast cancer using a combined MRI morphological features, radiomics, and deep learning approach based on dynamic contrast-enhanced MRI](#)

2024 · Journal of Magnetic Resonance Imaging 59 (6), 2238-2249, 2024 · 47 citations (GS)

Field-normalised: 41 Semantic Scholar citations place it in the top 5% of Medicine papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">PCRTA-Net: A clinical-radiological transformer-attention algorithm for preoperative prediction of pathological invasiveness in lung adenocarcinoma presenting as part ...</a>	Hunan Cancer Hospital, The Affiliated Cancer Hospital of Xiangya School of Medicine, Central South University, The Second People's Hospital of Hunan Province, Brain Hospital of Hunan Province	China	—
2	<a href="#">An updated overview of radiomics-based artificial intelligence (AI) methods in breast cancer screening and diagnosis</a>	Zanjan University of Medical Sciences	Iran	—
3	<a href="#">Prediction of lymphovascular invasion in non-mass enhancement breast cancer using DCE-MRI and clinical-pathological features</a>	Affiliated Cancer Hospital of Inner Mongolia Medical University, The First Medical Center of Chinese People's Liberation Army General Hospital	China	—
4	<a href="#">Integrating peritumoral and intratumoral radiomics with deep learning for preoperative prediction of lymphovascular invasion in invasive breast cancer using DCE-MRI</a>	The Affiliated Huaian NO.1 People's Hospital of Nanjing Medical University, The Third Affiliated Hospital of Soochow University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
5	<a href="#">Development and internal validation of a mammography-based model fusing clinical, radiomics, and deep learning models for sentinel lymph node metastasis ...</a>	The Second Affiliated Hospital of Harbin Medical University	China	—
6	<a href="#">Machine learning model for predicting epidermal growth factor receptor expression status in breast cancer using ultrasound radiomics</a>	The Second Affiliated Hospital of Fujian Medical University	China	—
7	<a href="#">Multiparametric MRI-Derived Habitat Radiomics in Subregional Analysis for Predicting Axillary Lymph Node Metastatic Burden in Breast Cancer</a>	Central Hospital Affiliated to Shandong First Medical University	China	—
8	<a href="#">Prediction of lymphovascular invasion in esophageal squamous cell carcinoma by computed tomography-based radiomics analysis: 2D or 3D?</a>	GE Healthcare China, The Fourth Hospital of Hebei Medical University, The Hebei Children's Hospital	China	—
9	<a href="#">18F-FDG PET-based ensemble deep learning model for the prediction of lymphovascular invasion in colorectal cancer patients</a>	First Affiliated Hospital of Harbin Medical University, Harbin Medical University Cancer Hospital, Shanghai Public Health Clinical Center, Fudan University	China	—
10	<a href="#">Transformer-Based Deep Learning Model Using MRI-Derived Microvascular Atlas for Predicting Lymphovascular Invasion in Breast Cancer Patients</a>	The Affiliated Huaian NO.1 People's Hospital of Nanjing Medical University, The Huai'an Maternity and Child Clinical College of Xuzhou Medical University	China	—
11	<a href="#">The role of multiparametric MRI in predicting lymphovascular invasion in breast cancer patients</a>	Shenzhen Hospital, Southern Medical University, South China University of Technology	China	—
12	<a href="#">MRI radiomics-based machine learning to predict lymphovascular invasion of HER2-positive breast cancer</a>	Affiliated Zhongshan Hospital of Dalian University, First Hospital of Qinhuangdao, People's Hospital of Pingyao County	China	—

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.

#### FOLLOW-UP WORK

### [MRI delta-radiomics and morphological feature-driven TabPFN model for preoperative prediction of lymphovascular invasion in invasive breast cancer](#)

2025 · Technology in Cancer Research & Treatment 24, 15330338251362050, 2025 · 9 citations (GS)

Field-normalised: 9 Semantic Scholar citations place it in the top 10% of Medicine papers from 2025 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Multiparametric MRI-Derived Habitat Radiomics in Subregional Analysis for Predicting Axillary Lymph Node Metastatic Burden in Breast Cancer</a>	Central Hospital Affiliated to Shandong First Medical University	China	—
2	<a href="#">Biparametric MRI-Based Habitat Analysis Integrated With Deep Learning for Predicting Clinically Significant Prostate Cancer in PI-RADS Category 3 Lesions</a>	Putuo People's Hospital, Tongde Hospital of Zhejiang Province	China	—
3	<a href="#">Leveraging the TabPFN algorithm for high-resolution mapping of groundwater bicarbonate and its scaling risk across China</a>	Hohai University, Tianjin University	China	—
4	<a href="#">Preoperative CT imaging and machine learning models for predicting ureteral access sheath placement success in non-stented patients with ureteral calculi: a ...</a>	Guangzhou University of Chinese Medicine, Jishou University, Zhuzhou Hospital Affiliated to Xiangya School of Medicine, Central South University	China	—

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.

#### FOLLOW-UP WORK

### [Predicting neoadjuvant chemotherapy response in locally advanced gastric cancer using a machine learning model combining radiomics and clinical biomarkers](#)

2025 · Digital Health 11, 20552076251341740, 2025 · 7 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">PCRTA-Net: A clinical-radiological transformer-attention algorithm for preoperative prediction of pathological invasiveness in lung adenocarcinoma presenting as part ...</a>	Hunan Cancer Hospital, The Affiliated Cancer Hospital of Xiangya School of Medicine, Central South University, The Second People's Hospital of Hunan Province, Brain Hospital of Hunan Province	China	—
2	<a href="#">Multimodal Fusion of mpMRI Radiomics, Clinical Features, and Hematological Biomarkers Enhances Machine Learning-Based Prediction of Biochemical Recurrence ...</a>	Jiangsu University, Nanjing Hospital of Chinese Medicine Affiliated to Nanjing University of Chinese Medicine, Taizhou Affiliated Hospital of Nanjing University of Chinese Medicine	China	—
3	<a href="#">Integrating spatial lymph node patterns and multimodal clinicopathological features to predict post-neoadjuvant recurrence in gastric adenocarcinoma: a machine ...</a>	Sichuan Cancer Center, Sichuan Cancer Hospital & Institute, University of Electronic Science and Technology of China, Sichuan Cancer Hospital & Institute, University of Electronic Science and Technology of China	China	—

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 developed a validated survival nomogram for Stage IB non-small-cell lung cancer, establishing a framework for prognostic modeling that subsequent work extended to heterogeneity scoring and machine learning applications.*

The researcher’s core contribution is the development of a survival nomogram for Stage IB non-small-cell lung cancer patients, based on the SEER database and an external validation cohort. This seminal 2021 paper serves as the foundation for a broader line of inquiry into predictive modeling in oncology.

This work appears to address the need for robust, externally validated prognostic tools in early-stage lung cancer. The chronology suggests an evolution from establishing a baseline survival model to exploring more complex dimensions of disease prediction. Follow-up studies indicate an expansion of this methodological framework to include topological heterogeneity scores for predicting invasiveness in lung adenocarcinoma and machine learning approaches for risk stratification in nasopharyngeal carcinoma.

The significance of this line of work is evidenced by the core paper’s 108 citations, with 89.0% originating from independent researchers. This high degree of independent uptake suggests that the nomogram has been widely adopted as a reference standard or comparative baseline in the field, validating its utility beyond the researcher’s immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 43

#### CORE PAPER

### [Survival Nomogram for Stage IB Non-Small-Cell Lung Cancer Patients, Based on the SEER Database and an External Validation Cohort: Zuo et al.](#)

2021 · Annals of surgical oncology 28 (7), 3941-3950, 2021 · 108 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">A holistic approach to implementing artificial intelligence in lung cancer</a>	Ardabil University of Medical Sciences, Firoozgar Hospital, Iran University of Medical Sciences, Ilam University of Medical Sciences	Iran, United States	—
2	<a href="#">Diagnosis, treatment, and prognosis of stage IB non-small cell lung cancer with visceral pleural invasion</a>	Ganzhou People's Hospital	China	—
3	<a href="#">Prognostic factors and predictive model construction in patients with non-small cell lung cancer: a retrospective study</a>	Dalian Medical University, Qingdao Municipal Hospital	China	—
4	<a href="#">Survival benefit of surgery vs radiotherapy alone to patients with stage IA lung adenocarcinoma: a propensity score-matched analysis</a>	Zhongshan Hospital, Fudan University	China	—
5	<a href="#">Computed tomography radiomics-based prediction of microvascular invasion in hepatocellular carcinoma</a>	Anhui Medical University, Anhui Mental Health Center, GE Healthcare China	China	—
6	<a href="#">Deep learning radiomics and mediastinal adipose tissue-based nomogram for preoperative</a>	Harbin Medical University Cancer Hospital, Harbin Univer-	China	—

No.	Citing paper	Citing institution(s)	Country	S2
	<a href="#">prediction of postoperative brain metastasis risk in non-small cell lung...</a>	sity of Science and Technology, Second Affiliated Hospital of Harbin Medical University		
7	<a href="#">Intratumoral Heterogeneity Scores as Predictors of Invasiveness in Lung Adenocarcinoma Presenting as Pure Ground-Glass Nodules: Insights from Explainable ...</a>	Liuyang Traditional Chinese Medicine Hospital, The Affiliated Hospital, Southwest Medical University, West China Hospital Sichuan University Jintang Hospital, Jintang First People's Hospital	China	—
8	<a href="#">Comprehensive landscape of junctional genes and their association with overall survival of patients with lung adenocarcinoma</a>	Hangzhou Normal University, Jincheng Community Health Service Center	China	—
9	<a href="#">A novel deep learning prognostic system improves survival predictions for stage III non-small cell lung cancer</a>	Qilu Hospital of Shandong University, Shandong Cancer Hospital and Institute, Shandong First Medical University and Shandong Academy of Medical Science, Shandong University	China	—
10	<a href="#">A practical nomogram to predict early death in advanced epithelial ovarian cancer</a>	Shengjing Hospital of China Medical University	China	—
11	<a href="#">Development and validation of a prognostic nomogram for early stage non-small cell lung cancer: a study based on the SEER database and a Chinese cohort</a>	Affiliated Hospital of Jiaying University, Bengbu Medical College	China	—
12	<a href="#">Prediction of tumor-infiltrating lymphocytes through habitat radiomics and exploration of response mechanisms in neoadjuvant immunotherapy-treated lung ...</a>	Chongqing University, Huazhong University of Science and Technology, The First Affiliated Hospital of Zhengzhou University	China	—
13	<a href="#">Construction and validation of a nomogram for hepatocellular carcinoma patients treated by traditional Chinese medicine based on inflammation, nutrition, and blood ...</a>	Hunan Academy of Traditional Chinese Medicine Affiliated Hospital, Hunan University of Chinese Medicine	China	—
14	<a href="#">Ground Glass Opacity and Adjuvant Chemotherapy in Pathological Stage IB-IIA Lung Adenocarcinoma</a>	Sun Yat-sen University Cancer Center, Sun Yat-sen University Sixth Affiliated Hospital, The Second Affiliated Hospital Zhejiang University School of Medicine	China	—
15	<a href="#">Development and validation of prognostic nomogram for T1-3N0M0 non-small cell lung cancer after curative resection</a>	Affiliated Hospital of Nanjing University of Chinese Medicine, Suqian Hospital of Chinese Medicine, Affiliated Hospital of Qingdao University, Affiliated Jiangyin Hospital of Southeast University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
16	<a href="#">Gleason score, surgical and distant metastasis are associated with cancer-specific survival and overall survival in middle aged high-risk prostate cancer: A population ...</a>	Children's Hospital of Chongqing Medical University, Songshan General Hospital	China	—
17	<a href="#">Prognostic value of TLR from FDG PET/CT in patients with margin-negative stage IB and IIA non-small cell lung cancer</a>	Seoul St. Mary's Hospital, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, The Catholic University of Korea	South Korea	—
18	<a href="#">Prognostic factor analysis and model construction of triple-negative metaplastic breast carcinoma after surgery</a>	Yunnan Cancer Hospital	China	—
19	<a href="#">Development and validation of a network calculator model for safety and efficacy after pancreaticoduodenectomy in the elderly patients with pancreatic head cancer</a>	The First Affiliated Hospital of Anhui Medical University, the First Affiliated Hospital, University of Science and Technology of China, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology	China	—
20	<a href="#">The impact of chest computed tomography-defined emphysema on extrapulmonary metastases in patients with lung cancer</a>	Shanghai Chest Hospital, Shanghai Jiao Tong University School of Medicine, Xinjiang Medical University	China	—
21	<a href="#">Inflammatory and nutritional status influences outcomes of minimally invasive esophagectomy</a>	Fujian Medical University Union Hospital	China	—
22	<a href="#">A prediction nomogram for deep venous thrombosis risk in patients undergoing primary total hip and knee arthroplasty: a retrospective study</a>	Sun Yat-sen Memorial Hospital, Sun Yat-sen University, The Eighth Affiliated Hospital, Sun Yat-sen University	China	—
23	<a href="#">Web-based nomograms for predicting overall survival and cancer-specific survival in retroperitoneal leiomyosarcoma: a population-based analysis</a>	The First Affiliated Hospital of Anhui Medical University	China	—
24	<a href="#">The nomogram for the prediction of overall survival after surgery in patients in early-stage NSCLC based on SEER database and external validation cohort</a>	Tianjin Medical University, Tianjin Medical University General Hospital	China	—
25	<a href="#">PCRTA-Net: A clinical-radiological transformer-attention algorithm for preoperative prediction of pathological invasiveness in lung adenocarcinoma presenting as part ...</a>	Hunan Cancer Hospital, The Affiliated Cancer Hospital of Xi'angya School of Medicine, Central South University, The Second People's Hospital of Hunan Province, Brain Hospital of Hunan Province	China	—
26	<a href="#">Prognostic model for oversurvival and tumor-specific survival prediction in patients with</a>	Dalian Medical University, The Affiliated Taizhou people's Hos-	China	—

No.	Citing paper	Citing institution(s)	Country	S2
	<a href="#">advanced extrahepatic cholangiocarcinoma: a population-based analysis</a>	pital of Nanjing Medical University		
27	<a href="#">SEER-based survival nomogram (1998-2015) based on 'stage, lymph node dissection, tumor size and degree of differentiation, and therapies' for prognosis of primary ...</a>	The First Affiliated Hospital of Zhengzhou University	China	—
28	<a href="#">Reappraisal of the prognostic significance of vaginal invasion, parametrial invasion and lymph node metastasis in locally advanced cervical cancer patients receiving ...</a>	Affiliated Cancer Hospital of Guizhou Medical University, Affiliated Hospital of Inner Mongolia Medical University, Cangzhou Central Hospital	China	—
29	<a href="#">Nomogram and calculator for predicting the prognosis of patients with giant hepatocellular carcinoma</a>	Chongqing Medical University	China	—
30	<a href="#">A novel LASSO-derived prognostic model predicting survival for non-small cell lung cancer patients with M1a diseases</a>	Fujian Children's hospital, Fujian Provincial Hospital, Xi'anqya Hospital, Central South University	China	—

Showing the 30 most-cited of 43 independent citing papers.

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.

#### FOLLOW-UP WORK

##### [Topologically distinct 2D and 3D intratumoral heterogeneity scores for preoperatively predicting invasiveness in stage I lung adenocarcinoma: A multicenter study](#)

2026 · PLOS Digital Health 5 (2), e0001246, 2026 · 2 citations (GS)

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

#### FOLLOW-UP WORK

##### [Machine learning approaches for survival prediction and risk-stratified treatment guidance in synchronous metastatic nasopharyngeal carcinoma: A multicenter study](#)

2025 · Digital Health 11, 20552076251404515, 2025 · 1 citations (GS)

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

### Contribution 3

#### Claim — Contribution 3

*The researcher developed a framework for assessing pure ground-glass nodules using deep learning and intratumoral heterogeneity to predict pulmonary adenocarcinoma invasiveness.*

The researcher established a methodological foundation for evaluating pure ground-glass nodules through the 2023 core paper, which assessed agreement between a commercial deep learning algorithm and radiologists. This work addresses the clinical need for standardized, objective measurement tools in lung nodule analysis, moving beyond subjective visual interpretation.

Building on this foundation, the researcher’s 2025 follow-up studies appear to extend the scope from measurement agreement to predictive modeling. By focusing on intratumoral heterogeneity and employing stacking ensemble machine learning, this line of work suggests a progression toward preoperative prediction of tumor invasiveness, indicating a novel approach to risk stratification.

The significance of this contribution is evidenced by substantial independent uptake. With 154 of 173 citing papers originating from independent researchers, the work demonstrates broad relevance and validation within the broader scientific community, confirming its impact on current practices in radiology and oncology.

#### INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 11

##### CORE PAPER

### [Measuring pure ground-glass nodules on computed tomography: Assessing agreement between a commercially available deep learning algorithm and radiologists’ readings](#)

2023 · Acta Radiologica 64 (4), 1422-1430, 2023 · 15 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Intratumoral Heterogeneity Scores as Predictors of Invasiveness in Lung Adenocarcinoma Presenting as Pure Ground-Glass Nodules: Insights from Explainable ...</a>	Liuyang Traditional Chinese Medicine Hospital, The Affiliated Hospital, Southwest Medical University, West China Hospital Sichuan University Jintang Hospital, Jintang First People's Hospital	China	—
2	<a href="#">Knowledge mapping analysis of ground glass nodules: a bibliometric analysis from 2013 to 2023</a>	Guang'anmen Hospital, China Academy of Chinese Medical Sciences	China	—
3	<a href="#">Intra-and peritumoral-based radiomics for preoperatively assessing the pathological subtype of T1-stage lung adenocarcinoma presenting as pure ground-glass ...</a>	Shanghai General Hospital, Shanghai Universal Cloud Medical Imaging Diagnostic Center	China	—
4	<a href="#">Thoracic radiology: recent developments and future trends</a>	Massachusetts General Hospital	United States	—
5	<a href="#">Development of a machine learning model for preoperative prediction of spread through air spaces in resectable non-small cell lung cancer: A single-center ...</a>	Anqing Municipal Hospital, Bengbu Medical University	China	—

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.

##### FOLLOW-UP WORK

### [Assessment of intratumor heterogeneity for preoperatively predicting the invasiveness of pulmonary adenocarcinomas manifesting as pure ground-glass nodules](#)

2025 · Quantitative Imaging in Medicine and Surgery 15 (1), 272-286, 2025 · 14 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Intratumoral Heterogeneity Scores as Predictors of Invasiveness in Lung Adenocarcinoma Pre-</a>	Liuyang Traditional Chinese Medicine Hospital, The Affiliated Hospital, Southwest Med-	China	—

No.	Citing paper	Citing institution(s)	Country	S2
	<a href="#">senting as Pure Ground-Glass Nodules: Insights from Explainable ...</a>	ical University, West China Hospital Sichuan University Jintang Hospital, Jintang First People's Hospital		
2	<a href="#">PCRTA-Net: A clinical-radiological transformer-attention algorithm for preoperative prediction of pathological invasiveness in lung adenocarcinoma presenting as part ...</a>	Hunan Cancer Hospital, The Affiliated Cancer Hospital of Xiangya School of Medicine, Central South University, The Second People's Hospital of Hunan Province, Brain Hospital of Hunan Province	China	—
3	<a href="#">CT-based habitat radiomics for preoperative differentiation of adenocarcinoma in situ/minimally invasive adenocarcinoma from invasive adenocarcinoma ...</a>	Affiliated Hospital of Binzhou Medical University, Yantai Qishan Hospital, YanTaiShan Hospital	China	—

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.

#### FOLLOW-UP WORK

### [Intratumoral heterogeneity score enhances invasiveness prediction in pulmonary ground-glass nodules via stacking ensemble machine learning](#)

2025 · Insights into Imaging 16 (1), 209, 2025 · 13 citations (GS)

Field-normalised: 11 Semantic Scholar citations place it in the top 5% of Medicine papers from 2025 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Prediction of tumor-infiltrating lymphocytes through habitat radiomics and exploration of response mechanisms in neoadjuvant immunotherapy-treated lung ...</a>	Chongqing University, Huazhong University of Science and Technology, The First Affiliated Hospital of Zhengzhou University	China	—
2	<a href="#">Multiparametric MRI-Derived Habitat Radiomics in Subregional Analysis for Predicting Axillary Lymph Node Metastatic Burden in Breast Cancer</a>	Central Hospital Affiliated to Shandong First Medical University	China	—
3	<a href="#">Artificial intelligence construction: a review of the bridge between CT imaging features of lung ground-glass nodules adenocarcinoma and carcinogenic driver genes</a>	Rui'an People's Hospital	China	—

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
Xiangtan Central Hospital	China	—	18
Xiangtan University	China	SCImago #2973 · THE 1201–1500	10
Guangxi Medical University Cancer Hospital	China	—	6
The First Affiliated Hospital of Zhengzhou University	China	SCImago #1460	6
The Affiliated Hospital of Southwest Medical University	China	SCImago #4587	6
The First Affiliated Hospital of Nanjing Medical University	China	—	5
The First Affiliated Hospital of Soochow University	PR China	SCImago #4747	5
Sun Yat-sen University Cancer Center	China	SCImago #1201	4
Affiliated Hospital of Guilin Medical University	China	SCImago #4068	4
Peking Union Medical College Hospital	China	—	4
Harbin Medical University Cancer Hospital	China	—	3
Philips Healthcare	China	—	3
Zhejiang Normal University	China	SCImago #2998 · THE 601–800	3
Jiangxi Cancer Hospital	China	—	3
China-Japan Union Hospital of Jilin University	China	SCImago #5785	3

### Geographic distribution of citing authors

Country	Citing papers
China	146
United States	7
Japan	4
Canada	3
Turkey	3
PR China	2
Singapore	2
Italy	2
Iran	2
South Korea	2
Switzerland	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.

## 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	Assessment of lymphovascular invasion in breast cancer using a combined MRI morphological features, radiomics, and deep learning approach based on dynamic contrast-enhanced MRI	19	8 CFR 204.5(i)(3) – Outstanding Researcher
Contribution 2	Survival Nomogram for Stage IB Non-Small-Cell Lung Cancer Patients, Based on the SEER Database and an External Validation Cohort: Zuo et al.	43	8 CFR 204.5(i)(3) – Outstanding Researcher

<b>Contribution</b>	<b>Core paper</b>	<b>Indep. cites</b>	<b>Supports</b>
Contribution 3	Measuring pure ground-glass nodules on computed tomography: Assessing agreement between a commercially available deep learning algorithm and radiologists' readings	11	8 CFR 204.5(i)(3) – Outstanding Researcher