EB2 National Interest Waiver (NIW) Application

Satyadhar Joshi

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Satyadhar Joshi

Phone: 929-356-5046 DOB: May 1987 Status: H1B (6th year) PERM Pending
Satyadhar.Joshi@gmail.com Country of Birth: India EB2 NIW Denied in Past

Summary

- 10+ years of Industry Experience with Banks and other Financial Institutions. Currently working as Assistant Vice President at Global Risk Analytics Bank of America NJ USA
- Over 100+ Publications in Magazines, Journals & Conferences, preprints. Peer reviewed over 50 Journal Papers (mix of low-mid-high quality journals)
- Over 25k annual downloads of Research Papers at SSRN/Preprints/Research gate/Academia and 300+ lifetime citations (excluding self citations)
- Report published on eroc.gov. Other work cited in reports of Federal Reserve, BLS, science.gov and US universities

Online Research Profiles

Personal Web Page	Summary of My Profile: Www.satyadharjoshi.com
Google Scholar	https://scholar.google.com/citations?user=jD8fpGMAAAAJ&hl=en
ORCID	https://orcid.org/0009-0002-6011-5080
Web of Science	https://www.webofscience.com/wos/author/record/LWJ-0136-2024
SSRN	https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=7372430
ResearchGate	https://www.researchgate.net/profile/Satyadhar-Joshi-2

Industry Experience

AVP at Bank of America	NJ USA	Nov 2019– Current
Application Programmer V at Bank of America	NJ USA	April 2019 – Nov 2019
Analytics Manager at XLC XL Catlin now AXA	New Delhi (remote NYC)	July 2014 - Aug 15
Quant Analyst at Wells Fargo through Genpact	New Delhi *(remote NYC)*	Dec 2012- July 14
Data Analytics Consultant at QcFinance (Startup)	India	June 2010- Dec 12

Education

Master of Science in Information Systems	Touro College, New York NY	2019
International MBA	Bar Ilan University, Israel	2016
Post Graduation Diploma in Information Technology	Lovely Professional University, India	2015
Bachelor of Engineering in Electrical Engineering	Rajiv Gandhi Tech University,India	2010

Contents

Chapter 1

Introduction and Executive Summary

The undersigned represents Satyadhar Joshi, an experienced researcher currently serving as Assistant Vice President (AVP) in the Global Risk & Analytics division at Bank of America, Jersey City, New Jersey. This petition seeks classification under the Employment-Based Second Preference (EB2) category, accompanied by a request for a National Interest Waiver (NIW) of the job offer and labor certification requirement.

Mr. Joshi's research lies at the intersection of Agentic Generative AI, Financial Risk, Big Data, and Policy Systems, addressing challenges of national importance across finance, defense, healthcare, and workforce transformation. His contributions at a systemically important financial institution strengthen the resilience, transparency, and security of the U.S. financial system. In parallel, his independent research promotes the responsible design and governance of Agentic AI frameworks that align with U.S. priorities in innovation, economic security, and workforce competitiveness.

Looking ahead, Mr. Joshi intends to transition from the private sector into the public research domain, focusing on the creation of / or becoming partner at a dedicated Agentic AI Policy and Workforce Research Center or collaboration with a leading think tank. His planned research program centers on AI governance, systemic risk in autonomous systems, ethical deployment, and national workforce realignment for the AI-driven economy. He aims to develop evidence-based models and data-driven frameworks to support retraining and upskilling initiatives that prepare U.S. workers—including veterans and mid-career professionals—for emerging roles in the AI and automation economy.

By advancing these objectives through open, collaborative, and transparent research, Mr. Joshi's work will help ensure that AI systems deployed in critical sectors remain safe, interpretable, and socially beneficial. Granting the National Interest Waiver will enable him to pursue this independent, mission-driven research outside commercial constraints, thereby amplifying its national value. His transition from corporate analytics to public-interest AI and workforce policy research will yield lasting contributions to U.S. technological competitiveness, national security, and inclusive economic growth.

This petition demonstrates that Mr. Joshi satisfies all regulatory criteria for the EB2 classification and meets the three-prong test established in *Matter of Dhanasar*:

1. His proposed endeavor has both **substantial merit** and **national importance**.
2. He is **well-positioned** to advance the proposed endeavor.
3. On balance, it would be **beneficial to the United States** to waive the job offer and labor certification requirements.

Chapter 2

Legal Criteria and Eligibility

Under USCIS guidelines, the EB2 National Interest Waiver is available to professionals who hold an advanced degree or its equivalent, or who possess exceptional ability in the sciences, arts, or business, and whose work substantially benefits the national interest of the United States.

2.0.1 Advanced Degree and Equivalent Qualifications (8 CFR § 204.5(k)(2))

Mr. Joshi possesses the required advanced academic credentials. Refer to Exhibit **??**:

- **Master of Science in Information Systems** from Touro College, New York
- **Master of Business Administration (MBA)** from Bar Ilan University, Israel, with a specialization in cross-cultural business policies and global management

2.1 International Government and Quasi-Government Recognition of Research

The following section documents the recognition and indexing of Mr. Joshi's research by governmental and quasi-governmental bodies worldwide, demonstrating the international reach and authoritative validation of his work in artificial intelligence, financial risk management, and workforce development.

2.1.1 United States Government Recognition of Mr Joshi's Work

U.S. Department of Energy - Science.gov

- **Platform**: Science.gov, the official portal for U.S. government science information
- **Managing Agency**: Office of Science and Technical Information (OSTI) under U.S. Department of Energy
- **Significance**: Indexing indicates research relevance to national priorities and federal agency interests (NSF, DOE, NIH, NASA, etc.)

- **Research Indexed** :

  Pathak, R., Joshi, S. (2009). Multi-scale Modeling and Analysis of Nano-RFID Systems on HPC Setup. In: Ranka, S., et al. Contemporary Computing. IC3 2009. Communications in Computer and Information Science, vol 40. Springer, Berlin, Heidelberg. Pathak, R., Joshi, S. (2009). Secure Multi-party Computation Protocol for Defense Applications in Military Operations Using Virtual Cryptography. In: Ranka, S., et al. Contemporary Computing. IC3 2009. Communications in Computer and Information Science, vol 40. Springer, Berlin, Heidelberg. Pathak, R., Joshi, S. (2009). Secured Communication for Business Process Outsourcing Using Optimized Arithmetic Cryptography Protocol Based on Virtual Parties. In: Ranka, S., et al. Contemporary Computing. IC3 2009. Communications in Computer and Information Science, vol 40. Springer, Berlin, Heidelberg.

- **Verification**: Accessible through official science.gov domain searches, Springer Link Website and Exhibits **??**

U.S. Federal Reserve Board

- **Research Cited** : Joshi, Satyadhar, "Generative AI in Investment and Portfolio Management: Comprehensive Review of Current Applications and Future Directions," Technical Report, preprints.org 2025.

- **Citation of Research**: Research cited in Finance and Economics Discussion Series paper "Generative AI at the Crossroads: Light Bulb, Dynamo, or Microscope?" (Baily et al., June 27, 2025)

- **Significance**: Direct relevance to critical discussions on AI's impact on national economy

- **Impact**: Informs Federal Reserve policy research and economic analysis

- **Verification**: Accessible through official .gov domain searches and Exhibit **??**

U.S. Bureau of Labor Statistics (BLS)

- **Research Cited** : Satyadhar Joshi, "Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies," Journal of Advanced Research in Science, Communication and Technology (IJARSCT), vol. 5, no. 1, p. 480-486, Feb. 2025, doi: 10.48175/IJARSCT-23260.

- **Recognition**: Research utilized in BLS publication on workforce and AI policy (DOI: 10.21916/mlr.2022.21)

- **Metadata Evidence**: Backend YAML data explicitly lists Mr. Joshi as contributing author

- **Significance**: Direct impact on U.S. government workforce research and policy considerations

- **Verification**: Accessible through official .gov domain searches and Exhibit **??**

U.S. Department of Education - ERIC (Institute of Education Sciences)

- **Platform**: ERIC (Education Resources Information Center)
- **Managing Agency**: Institute of Education Sciences, U.S. Department of Education
- **ERIC Number**: ED676035
- **Research Indexed**: "Enhancing U.S. K-12 Competitiveness for the Agentic Generative AI Era: A Structured Framework for Educators and Policy Makers" (October 2025)
- **Significance**: Official recognition by the U.S. Department of Education's primary education research database, demonstrating direct relevance to national education policy and K-12 reform initiatives
- **Verification**: Accessible through official ERIC database at `https://eric.ed.gov/` Exhibit **??**

2.1.2 International Government Recognition

France - Ministère de l'Enseignement supérieur, de la Recherche et de l'Espace

- **Platform**: scanR
- **Operator**: French Ministry of Higher Education, Research and Innovation
- **Verification**: `https://scanr.enseignementsup-recherche.gouv.fr/search/publications?q=satyadhar+joshi`
- **Significance**: Official discovery portal for French research and innovation, operated directly by the national government.
- **Research Indexed**: 16 publications by Mr Satyadhar Joshi
- **Notable Works**: Includes foundational reviews on "Model Risk Management in the Era of Generative AI," "DeepSeek: Performance and Architecture," and "Mixture of Experts Models in Business and Finance."
- **Impact**: Integration into a national-level research infrastructure demonstrates recognition and dissemination of research to French academic, governmental, and innovation ecosystems.
- Refer to Exhibits **??**

Germany - Munich Personal RePEc Archive (MPRA)

- **Platform**: Munich Personal RePEc Archive (MPRA)
- **Operator**: University of Munich Library (Ludwig-Maximilians-Universität), a leading German research university
- **Verification**: `https://mpra.ub.uni-muenchen.de/id/eprint/125221/`
- **Research Hosted**: *Joshi, Satyadhar (2025): Model Risk Management in the Era of Generative AI: Challenges, Opportunities, and Future Directions. Published in:*

International Journal of Scientific and Research Publications , Vol. 5, No. 15 (20 May 2025): pp. 299-309.

- **Significance**: Integration into a major European university's research archive, ensuring broad dissemination and permanent accessibility to the global economics and finance research community.
- **Impact**: The paper provides a critical synthesis of regulatory frameworks and quantitative risk metrics (including probabilistic frameworks and adversarial risk calculations) essential for the stability of financial institutions adopting Generative AI, a subject of key importance to U.S. and global financial security.

China - SciEngine (China Science Publishing & Media Ltd.)

- **Platform**: SciEngine, operated by China Science Publishing & Media Ltd. (Science Press)
- **Affiliation**: State-owned academic publisher affiliated with Chinese Academy of Sciences
- **Citation**: Work cited in article available at: `https://www.sciengine.com/BNSFC/doi/10.3724/BNSFC-2025.04.20.0001`
- **Significance**: International recognition through government-affiliated publishing outlet
- **Impact**: Demonstrated reliance by scholars in government-affiliated research institutions
- **Research cited**: Joshi, Satyadhar. "Review of gen ai models for financial risk management." International Journal of Scientific Research in Computer Science, Engineering and Information Technology 11, no. 1 (2025): 709-723. https://doi.org/10.32628/CSEIT25

United Kingdom - CORE.ac.uk

- **Platform**: CORE (UK), United Kingdom's open-access research aggregator
- **Operator**: Knowledge Media Institute at The Open University
- **Usage**: Widely used by UK Research and Innovation (UKRI) and Research England
- **Research Hosted**: Several https://core.ac.uk/search/?q=satyadhar%20joshi
- **Significance**: Broad dissemination to UK academic, policy, and industry stakeholders
- Refer to Exhibits **??**

Ukraine - Open Ukrainian Citation Index (OUCI)

- **Platform**: Open Ukrainian Citation Index (OUCI)
- **Operator**: State Scientific and Technical Library of Ukraine (DNTB) under Ukrainian government authority

- **Research Indexed**:

  Generative AI in Investment and Portfolio Management: Comprehensive Review of Current Applications and Future Directions https://ouci.dntb.gov.ua/en/works/9JQQ2qom/

  Artificial Intelligence in Conflict Resolution: A Comprehensive Review of Techniques and Applications https://ouci.dntb.gov.ua/en/works/lRrrVD0E/

  Review of Artificial General Intelligence (AGI): Implications for the U.S. Workforce and Economic Stability https://ouci.dntb.gov.ua/en/works/lDdd6k6z/

  Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives https://ouci.dntb.gov.ua/en/works/45rNeoZE/

- **Significance**: Official Ukrainian platform increasing accessibility and visibility
- **Relevance**: Contribution to global discussions on AI and conflict resolution
- Refer to Exhibits **??**

Europe PMC

- **Platform**: Europe PMC
- **Operator**: EMBL-EBI with support from the Europe PMC Funders' Group, in collaboration with the National Library of Medicine (NLM)
- **Over 63+ Preprints Research Indexed**:

  GenAI Agents for Early Disease Diagnosis: A Review of Architectures, Applications, and Policy Directions `https://europepmc.org/article/PPR/PPR1099612`

- **Significance**: Major European repository for life sciences literature with international collaboration
- **Verification**: Accessible through official ERIC database at `https://europepmc.org/search?query=satyadhar%20joshi` Exhibits **??**

2.1.3 Quasi-Government and Institutional Recognition

Academic Integration - International Institutions

- **Zuyd University of Applied Sciences (Netherlands)**: Research integrated into academic curricula and research guides
- **Harrisburg University Digital Commons (USA)**: Inclusion in institutional research repositories
- **Significance**: Adoption by international educational institutions demonstrates academic validation

Government-Affiliated Indexing Services

- **Index Copernicus**: European journal indexing system evaluating publication quality
- **Econ Papers**: Economics research database recognition

- **Significance**: International scholarly validation through government-affiliated indexing services

2.1.4 Summary of Government Recognition Impact

Table 2.1: Government and Quasi-Government Recognition Summary

Government Entity	**Type of Recognition**	**National Importance Demonstrated**
U.S. Department of Energy	Science.gov indexing	Relevance to federal scientific priorities
U.S. Federal Reserve	Research citation	Impact on economic policy research
U.S. Bureau of Labor Statistics	Research utilization	Influence on workforce policy development
China Science Publishing	SciEngine citation	International scholarly recognition
UK Research Institutions	CORE.ac.uk hosting	Dissemination to UK policy and academic circles
Ukrainian Government	OUCI indexing	Global relevance in conflict resolution AI
U.S. Department of Education	ERIC database indexing	Impact on national education policy and K-12 AI integration

2.1.5 Conclusion on Government Recognition

The extensive recognition of Mr. Joshi's research by multiple governmental and quasi-governmental bodies across the United States, China, United Kingdom, Ukraine, and European institutions demonstrates:

- **International Reach**: Global acknowledgment of research quality and relevance
- **Policy Impact**: Direct influence on government research and policy considerations
- **Substantial Merit**: Validation by authoritative governmental bodies
- **National Importance**: Alignment with critical national priorities in multiple countries
- **Research Quality**: Meeting rigorous standards required for government indexing and citation

This multi-national government recognition provides compelling evidence that Mr. Joshi's work possesses both substantial merit and national importance, satisfying the highest standards of the Dhanasar framework for EB-2 NIW classification.

2.2 Demonstrated Influence and Dissemination of Research at US Universities

The work of Satyadhar Joshi has achieved significant recognition, as evidenced by its dissemination through US .EDU academic repositories and citation across multiple educational institutions. This broad uptake across the academic community underscores the importance and utility of his contributions.

Indexing in Major Academic Repositories

Mr. Joshi's research is formally indexed and permanently archived in multiple university repositories, ensuring its accessibility to the global research community.

- His recent review paper on artificial intelligence is published and indexed in the **Harrisburg University Digital Commons**[1], demonstrating immediate impact through early citations.
- His collaborative work on plasmonic solar cells is permanently archived in the **Michigan Technological University Digital Commons**[2], representing significant engineering research in renewable energy.
- His early research on secure computation protocols is indexed in the **Smithsonian Astrophysical Observatory database**[3] hosted by Harvard University, indicating cross-disciplinary relevance and high academic caliber.

Citation and Utilization Across Educational Institutions

The practical value and scholarly influence of Mr. Joshi's work are demonstrated by its utilization across multiple educational contexts.

- His optimization research has been cited and utilized as a technical reference in senior design projects at **California State University, Sacramento**[4], showing direct pedagogical impact on engineering education.
- Furthermore, his work has been referenced in publications from the **Massachusetts Institute of Technology (MIT)**[5], demonstrating influence at premier research institutions.

2.2.1 Conference Publication Indexing in Stanford.edu

A notable early contribution in the domain of secure computation and data privacy was presented by Satyadhar Joshi and Rohit Pathak in their paper titled *"Secure Multi-Party*

[1]Joshi, S. (2025). *The Role of AI in Enhancing Teamwork, Resilience and Decision-Making.* Harrisburg University Digital Commons. https://digitalcommons.harrisburgu.edu/

[2]Vora, A., Joshi, S., et al. (2018). *Optimal design of thin-film plasmonic solar cells.* Michigan Tech Digital Commons. https://digitalcommons.mtu.edu/michigantech-p/2109

[3]Pathak, R. & Joshi, S. (2009). *Secure Multi-party Computation Protocol for Defense Applications.* NASA Astrophysics Data System. https://ui.adsabs.harvard.edu/

[4]Team LOKSYS (2015). *Senior Design Project Report.* California State University, Sacramento. https://www.csus.edu/indiv/t/tatror/senior_design/SD%20F14-S15/Team_2_LOKSYS_F14_to_S15.pdf

[5]MIT Center for Transportation & Logistics (2018). *Research Publication.* Massachusetts Institute of Technology. https://sheffi.mit.edu/sites/sheffi.mit.edu/files/2018-07/11_09574090410700194.pdf

Computation Protocol for Statistical Computation on Encrypted Data". The work was featured in the **Proceedings of the 2009 International Conference on Software Technology and Engineering (ICSTE 2009)**, held in Chennai, India, from 24–26 July 2009.

This paper proposed a protocol enabling statistical computations on encrypted datasets using multi-party computation principles, thereby enhancing data confidentiality in distributed environments. The publication is accessible through the Stanford University Libraries repository at:

`https://searchworks.stanford.edu/view/12926240`

The full citation is as follows:

> R. Pathak and S. Joshi, "Secure Multi-Party Computation Protocol for Statistical Computation on Encrypted Data," in *Proceedings of the 2009 International Conference on Software Technology and Engineering*, Chennai, India, 24–26 July 2009, pp. xvii–394.

subsection*Indexing in Major Academic Repositories

Mr. Joshi's research is formally indexed and permanently archived in multiple university repositories, ensuring long-term accessibility to the global research community.

Citation and Utilization Across Educational Institutions

The scholarly and practical impact of Mr. Joshi's work extends to multiple academic and instructional contexts.

Conclusion

The indexing of Satyadhar Joshi's publications across multiple university repositories (.edu domains), combined with their citation in both curriculum development at public universities and research at leading technological institutions, provides compelling evidence of his work's widespread acceptance and significant influence within the academic community.

Mr. Joshi's research is formally indexed and permanently archived within the digital repositories of leading U.S. universities, ensuring its long-term preservation and accessibility to researchers, policymakers, and industry professionals. This institutional adoption underscores the enduring value and relevance of his work to the American research ecosystem. The following table highlights key publications archived by U.S. academic institutions, with a focus on his recent, nationally critical work in Artificial Intelligence.

Table 2.2: U.S. University Repositories and Academic Indexing of Publications by Satyadhar Joshi

University / Repository	**Title of Work**	**Focus Area**	**Access / Link**
Harrisburg University Digital Commons	*Advancing U.S. Competitiveness in Agentic Gen AI: A Strategic Framework for Interoperability and Governance* (2025)	Agentic AI governance, U.S. competitiveness, and strategic frameworks for AI leadership	`https://digitalcommons.harrisburgu.edu/other-works/14/`
Harrisburg University Digital Commons	*Leadership in the age of AI: Review of quantitative models and visualization for managerial decision-making* (2025)	AI-driven leadership models, quantitative decision-making, and organizational transformation	`https://digitalcommons.harrisburgu.edu/other-works/13/`
Harrisburg University Digital Commons	*The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Review of Recent Developments* (2025)	AI-enhanced organizational behavior, team resilience, and human-AI collaborative decision-making	`https://digitalcommons.harrisburgu.edu/other-works/10/`
Michigan Technological University Digital Commons	*Optimal Design of Thin-Film Plasmonic Solar Cells* (2018)	Renewable energy optimization and nanophotonic engineering research	`https://digitalcommons.mtu.edu/michigantech-p/2109`
Smithsonian / Harvard University (NASA ADS Database)	*Secure Multi-party Computation Protocol for Defense Applications* (2009)	Secure computation and encrypted data analysis for defense systems	`https://ui.adsabs.harvard.edu/`
Stanford University Libraries (SearchWorks)	*Secure Multi-Party Computation Protocol for Statistical Computation on Encrypted Data* (2009)	Privacy-preserving computation and data security in distributed environments	`https://searchworks.stanford.edu/view/12926240`

Table 2.3: Citation and Utilization of Research Across Educational Institutions

Institution	**Use Case / Publication**	**Context of Utilization**	**Access / Link**
California State University, Sacramento	Reference of Rohit Pathak, Satyadhar Joshi, "Internet, 2009 First Asian Himalays International Conference on,"(Recent Trends in RFID and a Java based Software Framework for its Integration in Mobile Phones) in Senior Design Project Report (2015)	Applied optimization research used in undergraduate engineering design coursework	https://www.csus.edu/indiv/t/tatror/senior_design/SD%20F14-S15/Team_2_LOKSYS_F14_to_S15.pdf
Massachusetts Institute of Technology (MIT)	Reference of R. Pathak and S. Joshi, "Recent trends in RFID and a java based software framework for its integration in mobile phones," 2009 First Asian Himalayas International Conference on Internet, Kathmundu, Nepal, 2009, pp. 1-5, doi: 10.1109/AHICI.2009.5340296. in Center for Transportation and Logistics Report (2018)	Applied systems optimization and decision analytics research	https://sheffi.mit.edu/sites/sheffi.mit.edu/files/2018-07/11_09574090410700194.pdf

Chapter 3

Proposed Endeavor: National Interest Statement

3.1 Overview

The applicant proposes a multi-year initiative focused on financial system resilience through advanced AI, open-source research, and workforce development. **It is important to note that all cited publications throughout this proposal are the original work of the applicant, Mr. Satyadhar Joshi, published under his name in peer-reviewed journals and academic platforms.** These publications demonstrate his ongoing progress and established thought leadership in the field, forming the foundation for his proposed future endeavors. The following sections detail the activities, timelines, and projected deliverables building upon this substantial body of existing work.

3.2 Initiative 1: Advancing Agentic Gen AI in Financial and Economic Risk

- Develop generative AI models for stress testing and monitoring U.S. financial institutions to enhance economic stability.[1]
- Implement real-time risk monitoring using big data platforms such as Hadoop and Spark for financial decision support.[2]
- Enhance Gen AI implementation, oversight, and regulation in the U.S. healthcare domain to improve safety, compliance, and operational efficiency.[3]

[1]S. Joshi, "Review of Gen AI Models for Financial Risk Management: Architectural Frameworks and Implementation Strategies," *Preprints.org*, May 2, 2025. doi: 10.20944/preprints202505.0054.v1.

[2]S. Joshi, "Review of Data Pipelines and Streaming for Generative AI Integration: Challenges, Solutions, and Future Directions," *International Journal of Research Publication and Reviews*, vol. 6, no. 2, pp. 89-104, Feb. 1, 2025. doi: 10.55248/ijrpr.2025.6.2.124.

[3]S. Joshi, "A Comprehensive Review of Gen AI Agents: Applications and Frameworks in Finance, Investments and Risk Domains," *International Journal of Innovative Science and Research Technology*, vol. 10, no. 5, pp. 1-15, May 24, 2025. doi: 10.38124/IJISRT25MAY123.

- Develop generative AI applications for investment and portfolio management optimization.[4]
- Create AI-enhanced models for structured finance risk assessment and management.[5]
- Implement AI-driven market resilience frameworks using generative adversarial networks and variational autoencoders.[6]
- Advance prompt engineering techniques for financial market integrity and risk management.[7]

3.3 Initiative 2: Open-Source Research and Knowledge Dissemination on Agentic Gen AI

- Publish peer-reviewed research on AI applications in financial risk management, healthcare, and cybersecurity for U.S. stakeholders.[8]
- Release open-source tools for regulatory compliance, risk modeling, and operational transparency across sectors.[9]
- Organize workshops and webinars for financial sector professionals to share best practices and advance AI adoption responsibly.[10]

[4]S. Joshi, "Generative AI in Investment and Portfolio Management: Comprehensive Review of Current Applications and Future Directions," *Preprints.org*, May 8, 2025. doi: 10.20944/preprints202505.0221.v1.

[5]S. Joshi, "Enhancing structured finance risk models (Leland-Toft and Box-Cox) using GenAI (VAEs GANs)," *International Journal of Science and Research Archive*, vol. 15, no. 1, pp. 234-250, Jan. 30, 2025. doi: 10.30574/ijsra.2025.15.1.0045.

[6]S. Joshi, "Using Gen AI Agents With GAE and Vecond filing is legitimate and not just a repeat.AE to Enhance Resilience of US Markets," *International Journal of Computational Science Information Technology and Control Engineering*, vol. 12, no. 1, pp. 23-45, Jan. 28, 2025. doi: 10.30534/ijcstce/2025/121012025.

[7]S. Joshi, "Leveraging prompt engineering to enhance financial market integrity and risk management," *World Journal of Advanced Research and Reviews*, vol. 25, no. 1, pp. 100-115, Jan. 30, 2025. doi: 10.30574/wjarr.2025.25.1.0034.

[8]S. Joshi, "Architectures and Challenges of AI Multi-Agent Frameworks for Financial Services," *Current Journal of Applied Science and Technology*, vol. 44, no. 6, pp. 1-15, Jun. 5, 2025. doi: 10.19080/CJAST.2025.44.556242.

[9]S. Joshi, "A Review of Generative AI and DevOps Pipelines: CI/CD, Agentic Automation, MLOps Integration, and Large Language Models," *Preprints.org*, Jun. 12, 2025. doi: 10.20944/preprints202506.0124.v1.

[10]S. Joshi, "The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Review of Recent Developments," *International Journal of Computer Applications*, vol. 187, no. 3, pp. 23-45, May 28, 2025. doi: 10.36920/ijca.2025.187.3.012.

3.4 Initiative 3: Workforce Development and Training, Thought Leadership of Gen AI Application in Education and Health

- Create training programs for U.S. veterans and other professionals to enter AI-driven financial and technology careers.[11]
- Develop online courses (e.g., Gen AI Python for Health, Cyberspace, LLMs for compliance) to build AI literacy and skills in health, education, and cybersecurity domains.[12]
- Launch a non-profit initiative (CRAF) focused on financial AI policy, ethical AI adoption, and workforce upskilling in the United States.[13]

3.5 Initiative 4: Defense and National Security Applications of AI

- Develop secure multi-party computation (SMC) protocols for military and intelligence applications enabling secure collaboration between allied forces.[14]
- Advance Agentic AI and High-Performance Computing (HPC) systems for proactive cyber defense of critical infrastructure.[15]
- Create AI-driven threat detection frameworks for military command and control systems protection.[16]
- Develop specialized training programs for defense personnel in AI security applications and cyber warfare preparedness.[17]

[11]S. Joshi, "Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives," *International Journal of Advanced Research in Science, Communication and Technology*, vol. 5, no. 2, pp. 1-12, Feb. 17, 2025. doi: 10.48175/IJARSCT-23261.

[12]S. Joshi, "Training the US Older Workforce for the Impact of Generative AI on Financial Services: A Policy Guide," *Preprints.org*, Apr. 8, 2025. doi: 10.20944/preprints202504.0221.v1.

[13]S. Joshi, "Strategic Integration of Artificial Intelligence in U.S. K–12 Education: A Comprehensive Review and Policy Roadmap," *Preprints.org*, Jun. 16, 2025. doi: 10.20944/preprints202506.0164.v1.

[14]R. Pathak and S. Joshi, "Secure Multi-party Computation Protocol for Defense Applications in Military Operations Using Virtual Cryptography," in *Contemporary Computing*, S. Ranka et al., Eds., Berlin, Heidelberg: Springer, 2009, pp. 389–399. doi: 10.1007/978-3-642-03547-0_37.

[15]S. Joshi, "Advancing Cybersecurity Through Synergies of Agentic AI and High-Performance Computing," vol. 02, no. 07, 2025. doi: 10.20944/preprints202507.0124.v1.

[16]S. Joshi, "Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges," *International Journal of Innovations in Science, Engineering And Management*, pp. 73–88, July 2025. doi: 10.69968/ijisem.2025v4i373-88.

[17]S. Joshi, "The Impact of AI on Veteran Employment and the Future Workforce Development: Opportunities, Barriers, and Systemic Solutions," *World J. Adv. Res. Rev.*, vol. 27, no. 2, pp. 328–341, Sept. 2025. doi: 10.30574/wjarr.2025.27.3.3147.

3.6 Initiative 5: Advanced AI Research and Technical Innovation

- Conduct foundational research on Artificial General Intelligence (AGI) and its applications in business and finance.[18]
- Develop mitigation strategies for AI model weaknesses and hallucinations in critical financial applications.[19]
- Create advanced AI leadership frameworks for organizational decision-making and strategic planning.[20]
- Investigate AI applications in conflict resolution and emotional intelligence for enhanced organizational effectiveness.[21]

3.7 Nonprofit Startup Endeavor and Relevant Expertise

3.7.1 International Startup MBA in Israel and Current Location in NYC

With an International MBA from Bar-Ilan University in Israel, Mr. Joshi brings a global perspective essential for advancing interdisciplinary research and nonprofit development. The program included rigorous coursework in accounting, finance, and marketing, with particular emphasis on startup organizations, nonprofit enterprises, and funding strategies.

This training provides a solid foundation in financial management, strategic marketing, and operational planning—skills critical for establishing and leading a nonprofit dedicated to responsible AI innovation and workforce development. Coupled with his interdisciplinary scientific expertise, this MBA background uniquely equips Mr. Joshi to design and implement effective strategies for organizational registration, accounting, marketing, financial planning, pitching, and fundraising.

Residing in New York City, Mr. Joshi actively participates in professional meetups and industry gatherings, which expose him to cutting-edge ideas and best practices in nonprofit management and sector collaborations. These experiences enhance his understanding of sustainable nonprofit strategies and expand his professional network, positioning him to implement impactful initiatives aligned with national priorities.

His international education further enables him to navigate cross-border collaborations and foster public–private partnerships, amplifying the global impact of nonprofit initia-

[18] S. Joshi, "Comprehensive Review of Artificial General Intelligence AGI and Agentic GenAI: Applications in Business and Finance," *Preprints.org*, May 12, 2025. doi: 10.20944/preprints202505.0287.v1.

[19] S. Joshi, "Mitigating LLM Hallucinations: A Comprehensive Review of Techniques and Architectures," *Preprints.org*, May 26, 2025. doi: 10.20944/preprints202505.0421.v1.

[20] S. Joshi, "Leadership in the Age of AI: Review of Quantitative Models and Visualization for Managerial Decision-Making," *Preprints.org*, Apr. 21, 2025. doi: 10.20944/preprints202504.0421.v1.

[21] S. Joshi, "Artificial Intelligence in Conflict Resolution: A Comprehensive Review of Techniques and Applications," *Preprints.org*, May 7, 2025. doi: 10.20944/preprints202505.0187.v1.

tives. This combination of scientific insight and business acumen demonstrates that Mr. Joshi's nonprofit plans are both feasible and strategically sound, with the potential for substantial public benefit and alignment with the national interest.

3.8 Five-Year Timeline and Milestones

Year	Key Activities	Projected Outcomes
2026	Launch CRAF non-profit initiative, implement AI risk tools, begin defense SMC protocol development	5,000+ course registrations, 500+ veterans enrolled, initial defense framework prototype
2027	Publish "State of AI" report, deploy risk adoption tools, advance Agentic AI for cyber defense	20% drop in risk loss, 10,000+ downloads, DOD collaboration initiated
2028	Veteran AI fellowship, automate compliance, deploy military threat detection systems	15,000+ MOOC enrollments, 30% cost reduction, 2+ defense agency partnerships
2029	AI audit toolkit, policy papers, chatbots, nationwide defense AI training	Use by 2+ federal agencies, 20,000+ trainees, defense workforce certification program
2030	Nationwide bootcamp expansion, predictive analytics, critical infrastructure protection systems	1,000+ veterans trained, 15% lower defaults, national security AI framework deployment

Mr. Joshi's proposed endeavor focuses on four integrated components that collectively address critical national needs:

3.8.1 Advancing Agentic Gen AI System Resilience through AI

Mr. Joshi will continue developing and implementing advanced AI and machine learning models to enhance risk management capabilities at U.S. financial institutions by migration to his proposed Policy Research Research. His work specifically addresses:

- Development of generative AI models for stress testing and scenario analysis
- Real-time risk monitoring systems using big data technologies (Hadoop, Spark, Kafka)
- Enhanced agentic risk detection and prevention frameworks
- Improving model accuracy and reducing operational risks in systemic financial institutions

3.8.2 Research and Knowledge Dissemination

Mr. Joshi will continue his scholarly contributions through:

- Publication of peer-reviewed research on AI applications in finance
- Development of open-source tools for risk modeling and regulatory compliance
- Sharing best practices and innovations with the broader financial and regulatory community

3.8.3 Workforce Development and Education

Mr. Joshi is committed to enhancing U.S. workforce capabilities through:

- Creating educational resources and training programs in financial analytics and AI
- Establishing specialized training initiatives for U.S. veterans transitioning to financial technology careers
- Developing accessible online courses and materials to upskill American professionals

3.8.4 Defense and National Security Applications

Mr. Joshi will apply his expertise to critical national security challenges through:

- Developing secure computation protocols for military and intelligence applications
- Creating AI-driven cyber defense systems for critical infrastructure protection
- Establishing training programs for defense personnel in AI security applications
- Supporting DOD and DHS initiatives in advanced threat detection and response

3.9 Substantial Merit and National Importance

3.9.1 Alignment with National Priorities

Mr. Joshi's work addresses several areas of critical national importance:

Agentic Gen AI System Stability for Finance, Economics and Health

The stability of the U.S. financial system is a matter of paramount national importance. Mr. Joshi's work developing advanced risk models directly supports this priority by:

- Enhancing the accuracy of risk assessments for major financial institutions
- Reducing systemic risks of Agentic Gen AI risk adoption through better predictive modeling
- Supporting the mandates of the Financial Stability Oversight Council (FSOC) and U.S. Treasury Department

Technological Innovation and Business Leadership

The United States has identified leadership in artificial intelligence and big data technologies as a strategic national priority. Mr. Joshi's work contributes to this leadership by:

- Applying cutting-edge AI techniques to solve practical financial challenges
- Developing innovative approaches to data analysis and model validation
- Enhancing the competitiveness of U.S. leadership institutions in global markets
- Supporting initiatives outlined in the White House's Executive Order on AI (Oct. 2023)

Workforce Development

Developing a skilled workforce capable of implementing advanced technologies is essential for national economic competitiveness. Mr. Joshi's educational initiatives address this need by:

- Providing specialized training in high-demand technical skills
- Creating pathways for veterans to transition to civilian careers in technology
- Addressing skills gaps in the financial technology sector
- Supporting Department of Labor workforce development goals

National Security and Defense

The protection of U.S. national security interests through advanced technology is a fundamental government priority. Mr. Joshi's defense-focused work supports this by:

- Enhancing military and intelligence capabilities through secure AI systems
- Protecting critical infrastructure from cyber threats using advanced AI detection
- Supporting DOD and DHS strategic technology initiatives
- Strengthening national security through innovative AI applications

3.9.2 Evidence of Impact and Recognition

Professional Impact

Mr. Joshi's work has demonstrated tangible benefits to U.S. financial institutions:

- Developed quantitative models managing hundreds of billions of dollars in assets at Bank of America
- Implemented automation processes that reduced errors by 30-50% at Wells Fargo
- Created risk assessment frameworks that enabled preemptive actions during volatile market conditions
- Received strong endorsements from industry leaders and supervisors

Defense and Security Contributions

Mr. Joshi's research has direct applications to national security:

- Developed secure multi-party computation protocols with military applications[22]
- Published advanced cybersecurity frameworks using Agentic AI and HPC[23]
- Analyzed defense partnerships and technology transfer patterns[24]

3.10 Future Plans and Projected Impact

Mr. Joshi has developed detailed plans for advancing his proposed endeavor over the next five years, with specific metrics for measuring impact.

3.10.1 Research and Development Goals

Objective	Metrics and Impact
Peer-Reviewed Publications	• Publish 3-4 papers annually in high-quality journals • Focus areas: Generative AI for finance, real-time risk monitoring, adversarial robustness in financial models • Target 20-30 paper reviews annually for peer journals
Public Policy Impact	• Maintain 10,000-20,000 monthly downloads of policy materials • Expand repository to include regulatory sandbox frameworks, AI fairness toolkits, stress testing methodologies • Partner with research institutions on white papers
Defense and Security Research	• Develop 2-3 defense-specific AI applications annually • Collaborate with DOD and DHS on threat detection systems • Publish research on AI applications for national security

[22] R. Pathak and S. Joshi, "Secure Multi-party Computation Protocol for Defense Applications in Military Operations Using Virtual Cryptography," in *Contemporary Computing*, S. Ranka et al., Eds., Berlin, Heidelberg: Springer, 2009, pp. 389–399. doi: 10.1007/978-3-642-03547-0_37.

[23] S. Joshi, "Advancing Cybersecurity Through Synergies of Agentic AI and High-Performance Computing," vol. 02, no. 07, 2025.

[24] A. Ludhiyani and S. Joshi, "India – Israel Defense Relationship: Quantitative & Qualitative Analysis of Defense Companies of India and Israel," *Journal of Defense Studies and Resource Management*, vol. 2015, May 2016. doi: 10.4172/2324-9315.1000120.

3.10.2 Workforce Development Initiatives

Program	Projected Growth
Veterans in Financial AI	• Scale from current 1,000 to 10,000+ learners by 2030 • Launch 3 new certification tracks: GenAI for AML compliance, Agentic AI for efficiency, Python for Agentic AI Edge AI • Secure DOL/VA funding for national expansion
Open Courseware	• Grow registrations significantly • Develop integrated curricula: Python for quant finance (2026), LLM prompt engineering (2027), synthetic data generation (2028)
Defense AI Training	• Train 500+ defense personnel annually by 2030 • Develop specialized courses for military AI applications • Partner with defense contractors and government agencies

3.10.3 Five-Year Impact Projection

Year	Key Initiatives	Projected Outcomes
2026	• Launch Center for Responsible AI in Finance (CRAF) • Publish 4 peer-reviewed papers • Release AI for Financial Risk Management course • Implement AI-based credit risk tools at Bank of America • Begin defense SMC protocol development	• 5,000+ course registrations • 15% improvement in model accuracy • 500+ veterans enrolled • Initial defense framework prototype
2027	• Publish State of AI in U.S. Finance report • Deploy fraud detection models • Develop AI Agents in Banking workshops • Launch open-source tools with regulators • Advance Agentic AI for cyber defense	• 20% reduction in fraud losses • 10,000+ paper downloads • 3 community bank partnerships • DOD collaboration initiated

2028	• Establish veteran fellowship for AI finance • Launch AGI credit risk MOOC • Automate compliance monitoring • Publish 2 papers on AI adoption in Risk • Deploy military threat detection systems	• 100+ veteran fellows placed • 30% reduction in compliance costs • 15,000+ MOOC enrollments • 2+ defense agency partnerships
2029	• Release AI audit toolkit for regulators • Publish ethics/compliance training module • Deploy customer-facing AI chatbots • Submit policy paper on AI fairness in lending • Nationwide defense AI training rollout	• Toolkit used by 2+ federal agencies • 25% boost in customer satisfaction • 20,000+ training completions • Defense workforce certification program
2030	• Expand veteran bootcamp nationally • Deploy predictive loan default analytics • Establish 2–5 regional training hubs • Publish workforce retraining framework • Critical infrastructure protection deployment	• 1,000+ veterans trained annually • 15% drop in loan defaults • Engagement with 5+ state banking associations • National security AI framework deployment

3.11 Conclusion

Mr. Satyadhar Joshi represents precisely the type of high-impact professional that the EB2 National Interest Waiver was designed to benefit. His work enhancing the resilience of Agentic Gen AI based implementation for the U.S. financial system and national security infrastructure addresses matters of substantial merit and national importance. His unique qualifications and proven track record demonstrate that he is well-positioned to advance his proposed endeavor. Finally, the significant benefits his work provides to the United States outweigh the national interest in protecting U.S. workers through the labor certification process.

We respectfully request that USCIS approve this petition, recognizing that Mr. Joshi's

contributions to financial stability, technological innovation, workforce development, and national security provide clear and substantial benefits to the national interest of the United States.

3.12 Referencing Evidences related to this Chapter

Evidence Submitted

- Independent Opinion Letters from Professors, PhD and Industry experts
- Evidence demonstrating the substantial merit of the endeavor

RFE Concern	**Response and Evidences**
Endeavor specificity	Detailed 5 year work plan with annual milestones in four different domains including defense/national security
National importance	Linking how Mr Joshi's (applicant) research address specific issues of National Importance including defense applications
Current and future impact	Downloads and Selection Citations Analysis projections including defense research citations
Missing Independent Letters	Independent Expert Opinion and Evaluations from PhDs and Professors including defense expertise
Impact Beyond Job at the Bank	Two Testimonial LOR of Open Access Research published in the last decade which goes beyond the job duties including defense publications

Criteria Addressed	**Supporting Expert Letters / Testimonial Letters**
Support for Five-Year Plan	See Expert Opinion by Dr Asif Exhibit **??** and by Dr Anjum Exhibit **??** for details on feasibility of the proposed endeavor projections.
Evidence of Top 10% Standing in Field	Expert Letter by Dr. Rozeria Exhibit **??** and by Dr Malik Exhibit **??**
Verification of DOIs, Online Profiles, and Awards	Expert Letter by Dr Sheraz Exhibit**??** and Dr. Kamran Exhibit **??**
Impact beyond employer to the overall field	Testimonial Letter by Mr. Ankit Exhibit**??** and Mr Gaurav Exhibit **??**
Defense and National Security Applications	Defense research publications and analysis of international defense partnerships demonstrating national security relevance

Table 3.6: Summary of Expert Opinion Letters and Supporting Evidence. Independent

Expert letters were obtained from professors with familiarity and experience regarding the EB2-NIW process. These experts were provided with the applicant's EB2-NIW petition materials, including the five-year research plan and published works. Accordingly,

the experts were well-positioned to evaluate the candidate's qualifications in a comprehensive and holistic manner, and their recommendations should be considered informed and appropriate.

Chapter 4

Proven Contributions to Defense, Secure Multi Party Computation and Cyber Security

4.1 National Importance: Critical Contributions to U.S. Defense and Cybersecurity

Mr. Joshi's expertise extends beyond financial stability into the critical national security domains of defense and cybersecurity. His pioneering research in Secure Multi-Party Computation (SMC), Agentic AI, and High-Performance Computing (HPC) provides tangible, advanced solutions for U.S. defense applications, making his continued work in the United States a matter of strategic importance.

4.1.1 Securing Military Operations with Advanced Cryptography

Mr. Joshi's foundational work in Secure Multi-Party Computation (SMC) addresses a core challenge in modern military and intelligence operations: enabling secure collaboration between multiple parties without exposing sensitive underlying data. His research, specifically cited in defense literature, has direct applications for the U.S. Department of Defense (DoD) and intelligence communities.

- **Protocol for Defense Applications:** In his peer-reviewed publication, *"Secure Multi-party Computation Protocol for Defense Applications in Military Operations Using Virtual Cryptography,"* Mr. Joshi developed a protocol that allows separate military units or allied nations to jointly compute a strategy or analyze intelligence without sharing their proprietary or classified data sets.[1]
- **Strategic Relevance:** This technology is critical for modern joint-allied operations, secure logistics planning, and multi-agency threat analysis, directly supporting the DoD's imperative for secure information sharing outlined in its Cyber

[1] R. Pathak and S. Joshi, "Secure Multi-party Computation Protocol for Defense Applications in Military Operations Using Virtual Cryptography," in *Contemporary Computing*, S. Ranka et al., Eds., Berlin, Heidelberg: Springer, 2009, pp. 389–399. doi: 10.1007/978-3-642-03547-0_37.

Strategy. His work provides a technical foundation for maintaining operational security while enhancing collaborative effectiveness.

4.1.2 Advancing Cybersecurity through Agentic AI and HPC

The U.S. faces persistent and evolving cyber threats from state and non-state actors targeting critical infrastructure and defense networks. Mr. Joshi's recent research focuses on leveraging the combined power of Agentic AI and High-Performance Computing to proactively defend these systems.

- **Proactive Cyber Defense:** In his 2025 work, *"Advancing Cybersecurity Through Synergies of Agentic AI and High-Performance Computing,"* Mr. Joshi explores how autonomous AI agents, powered by HPC, can predict, detect, and respond to sophisticated cyber-attacks at a speed and scale unattainable by human operators alone.[2]
- **Comprehensive Review of Architectures:** His publication, *"Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges,"* while focused on finance, provides a framework that is directly transferable to securing defense critical infrastructure (DCI).[3] The architectures and algorithms analyzed are essential for protecting military command and control systems, weapons platforms, and sensitive research data from advanced persistent threats (APTs).

4.1.3 Strategic Analysis of Defense Partnerships

Mr. Joshi's analytical skills are further demonstrated by his quantitative and qualitative analysis of international defense relationships. His co-authored study, *"India – Israel Defense Relationship,"* involved a detailed assessment of defense companies and collaboration patterns.[4][5] This showcases his ability to conduct strategic-level analysis that informs understanding of global defense markets and technological transfer—a skillset of immense value to U.S. defense policy and intelligence agencies.

4.1.4 Alignment with U.S. Defense Priorities

Mr. Joshi's proposed endeavor to establish a policy research center would allow him to directly apply this unique blend of technical and strategic expertise to pressing U.S. national security needs:

[2]S. Joshi, "Advancing Cybersecurity Through Synergies of Agentic AI and High-Performance Computing," vol. 02, no. 07, 2025.

[3]S. Joshi, "Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges," *International Journal of Innovations in Science, Engineering And Management*, pp. 73–88, July 2025. doi: 10.69968/ijisem.2025v4i373-88.

[4]A. Ludhiyani and S. Joshi, "India – Israel Defense Relationship: Quantitative & Qualitative Analysis of Defense Companies of India and Israel," *Journal of Defense Studies and Resource Management*, vol. 2015, May 2016. doi: 10.4172/2324-9315.1000120.

[5]A. Ludhiyani, S. Joshi, R. Pathak, P. Parandkar, and S. Katiyal, "Subjective and assessable exploration of India-Israel defense relationship," in *2015 2nd International Conference on Computing for Sustainable Global Development (INDIACom)*, Mar. 2015, pp. 314–319. doi: 10.1109/INDIACom.2015.7100265.

- **Developing Next-Generation Tools:** He can advance his SMC and Agentic AI research to create open-source or government-purpose tools for the DoD and DHS.
- **Informing Policy:** His center can produce unclassified policy reports on AI and cybersecurity threats, providing actionable insights for legislators and agency leaders.
- **Upskilling the Defense Workforce:** His proven training methodologies can be adapted to create certification programs for military personnel and defense contractors in secure AI deployment and cyber defense, directly supporting the U.S. government's initiative to build a cyber-ready workforce.[6]

4.1.5 Conclusion on Defense Criticality

Mr. Joshi is not merely a researcher in a relevant field; he is a proven innovator with published, applicable research in areas that the U.S. government identifies as critical to maintaining its technological and strategic advantage. His work on secure computation and AI-driven cybersecurity provides concrete solutions to real-world defense challenges. Allowing him to continue and expand this work freely in the United States, unconstrained by a specific employer's focus, is unequivocally in the national interest of the United States. His contributions are poised to strengthen national security, enhance military capabilities, and protect critical infrastructure from emerging threats.

[6]Satyadhar Joshi, "The Impact of AI on Veteran Employment and the Future Workforce Development: Opportunities, Barriers, and Systemic Solutions," *World J. Adv. Res. Rev.*, vol. 27, no. 2, pp. 328–341, Sept. 2025. doi: 10.30574/wjarr.2025.27.3.3147.

Chapter 5

Uniqueness and Innovation of Proposed Methodology

The USCIS denial questioned whether Mr. Joshi's techniques, methodologies, or methods are "sufficiently unique, innovative, or distinct from similar businesses in the industry." This chapter provides a comprehensive comparative analysis demonstrating that Mr. Joshi's approach represents a significant advancement over conventional methods, with clear and substantial national impact.

5.1 Comparative Analysis: Conventional vs. Innovative Approaches

Conventional Methods	**Mr. Joshi's Methods**	**Advantages and National Impact**
Traditional statistical models	**GenAI + HPC-driven risk models**	• 30–50% faster stress testing cycles • 15–20% improvement in predictive accuracy • Real-time risk monitoring capabilities • Enhanced compliance with Basel III/FRTB regulations

Manual compliance checks	**AI-driven regulatory automation**	• 80% reduction in manual task processing • Real-time monitoring and anomaly detection • Reduced operational risk for systemic institutions • Projected $2-5M annual savings per mid-size bank
Generic AI training programs	**Veteran-focused AI upskilling programs**	• Targeted addressing of national workforce gap • Specialized support for U.S. veterans transition • 25% higher retention rates among trained older workers • Direct alignment with DOL workforce development goals
Proprietary institutional research	**Open-source research and tools**	• Democratized access for community banks and credit unions • 5,000+ downloads of open-source FinRisk-AI toolkit • Adoption by academic institutions and fintech startups • Enhanced transparency in financial AI systems
Theoretical academic research	**Applied industry-academia collaboration**	• Frontline industry experience at BoFA informs research • Practical solutions tested in real-world environments • Direct applicability to U.S. regulatory challenges • Bridge between academic innovation and industry implementation

5.2 Evidence of Innovation and Uniqueness

5.2.1 Federal Recognition and Adoption

Mr. Joshi's methodologies have gained recognition at the highest levels of U.S. economic policymaking:

- **Federal Reserve Board Citation:** Mr. Joshi's research has been cited in the Finance and Economics Discussion Series paper "Generative AI at the Crossroads: Light Bulb, Dynamo, or Microscope?" (Baily et al., June 27, 2025), demonstrating relevance to critical discussions on AI's impact on the national economy.
- **Academic Integration:** His work has been integrated into research guides at Zuyd University of Applied Sciences (Netherlands) and included in Harrisburg University Digital Commons, indicating international recognition of his innovative approaches.
- **Government Indexing:** Multiple publications indexed in Science.gov, the official portal for U.S. government science information managed by the Office of Science and Technical Information under the U.S. Department of Energy.

5.2.2 Quantifiable Impact Metrics

The innovation of Mr. Joshi's approach is demonstrated through tangible results:

- **Research Reach:** 45,345+ reads and 20,000+ downloads across academic platforms
- **Citation Impact:** 804+ ResearchGate citations, 315+ Semantic Scholar citations, h-index of 11
- **Professional Recognition:** Royal Fellow of IOASD, SAS Young Research Fellow, Econometrics Innovative Research Award
- **Field Ranking:** Top 10-15% of authors on SSRN in AI/Finance category

5.3 Snowball Effect: Growing National Impact

Mr. Joshi's methodology creates a self-reinforcing cycle of impact that demonstrates both innovation and national importance:

5.3.1 Research Dissemination Growth

- Cumulative research downloads projected to reach 75,000+ within five years
- Annual readership growing from 5,000 (2025) to 40,000 by 2030
- Peer review activity increasing from 30 reviews (2025) to 60 reviews annually by 2030

5.3.2 Workforce Development Expansion

- Current training programs reaching 1,000+ individuals annually
- Projected scale to 5,000+ professionals trained by 2030
- Veteran-focused initiatives creating direct pathways to high-value AI careers
- Partnerships with American Legion and state workforce development boards

5.3.3 Policy Influence Trajectory

- Current citations in federal reports and academic institutions
- Projected advisory roles with federal working groups (Federal Reserve, SEC)
- Planned contributions to industry standards development (IEEE, ISO)
- Expected testimony to Congressional committees on AI in finance

5.4 Alignment with National Priorities

Mr. Joshi's innovative methodology directly addresses multiple U.S. government initiatives:

- **NIST AI Risk Management Framework 2.0:** His work on AI safety and trustworthiness aligns with technical guidelines
- **White House Executive Orders:** Direct alignment with EO 14179 (Removing Barriers to American AI Leadership) and EO 14192 (Unleashing Prosperity Through Deregulation)
- **Treasury Department Initiatives:** Support for financial stability monitoring and regulatory technology advancement
- **DHS Critical Infrastructure Security:** Contributions to AI security implementation in financial systems
- **CHIPS and Science Act:** Workforce development in critical technology sectors

5.5 Conclusion: Demonstrated Innovation with National Impact

The evidence presented in this chapter definitively addresses USCIS's concerns regarding the uniqueness and innovation of Mr. Joshi's methodology. His approach represents a significant advancement over conventional methods through:

1. **Technical Innovation:** Unique combination of GenAI, HPC, and big data technologies specifically tailored for U.S. financial systems
2. **Proven Impact:** Quantifiable results in research dissemination, workforce development, and policy influence
3. **National Recognition:** Citations by federal agencies, integration into academic curricula, and alignment with government initiatives
4. **Growing Trajectory:** Clear evidence of accelerating impact through the "snowball effect" of adoption and implementation
5. **Tangible Benefits:** Projected economic savings, enhanced financial stability, and workforce development outcomes

Mr. Joshi's methodology is not merely innovative in theory but has demonstrated practical, measurable impact on U.S. financial systems, regulatory frameworks, and workforce

capabilities. This fulfills the *Dhanasar* requirement for an endeavor that is both substantively meritorious and nationally important, with a unique approach that distinguishes it from conventional practices in the field.

Chapter 6

Potential Prospective Impact (PPI)

The *Matter of Dhanasar* framework requires demonstrating that a proposed endeavor has "potential prospective impact" (PPI) with "substantial positive effects" for the United States. The USCIS denial questioned whether Mr. Joshi's work would have implications beyond his immediate role or clientele. This chapter provides comprehensive evidence that Mr. Joshi's endeavor has precisely the type of broad, quantifiable, and nationally important impact contemplated by *Dhanasar*.

6.1 Quantified Impact Projections

Based on current adoption rates, historical growth trajectories, and validation from independent experts, Mr. Joshi's endeavor demonstrates substantial prospective impact across multiple dimensions:

6.1.1 Proposed Possible Economic Impact

- **Compliance Cost Reduction:** AI-driven regulatory automation projects 15–25% reduction in compliance costs for mid-size banks, translating to $2–5 million annually per institution
- **Systemic Risk Mitigation:** Enhanced risk modeling frameworks could prevent losses similar to the 2008 crisis, where inadequate risk modeling contributed to $2.8 trillion in economic damage
- **Productivity Gains:** 30–40% productivity improvements in financial services operations through AI automation and process optimization
- **Capital Efficiency:** 25–40% reduction in capital allocation inefficiencies across U.S. banking sector, potentially freeing billions for productive lending

6.1.2 Proposed Possible Workforce Impact

- **Professional Training:** 5,000+ U.S. professionals trained by 2030 through structured programs and workshops

- **Veteran Focus:** "Veterans in Financial AI" program targeting 500+ veterans annually, with 85% placement rate in fintech roles
- **Salary Impact:** Trained participants earning average of $15,000 more annually in AI-enhanced financial roles
- **Geographic Reach:** Establishment of 2–5 regional training hubs to ensure nationwide impact

6.1.3 Proposed Possible Regulatory and Policy Impact

- **Tool Adoption:** Open-source FinRisk-AI toolkit already downloaded 5,000+ times, with projected adoption by 50+ financial institutions
- **Agency Engagement:** Formal collaborations with FDIC, OCC, and Federal Reserve on AI implementation frameworks
- **Policy Contributions:** 2–3 commentary letters annually submitted to SEC, CFPB, and FSOC on AI regulation
- **Standards Development:** Contributions to NIST AI Risk Management Framework and industry standards (IEEE, ISO)

6.1.4 Proposed Possible Research and Knowledge Dissemination

- **Publication Reach:** 75,000+ cumulative downloads of publications by 2030, from current baseline of 20,000+ downloads
- **Academic Integration:** Research integration into curricula at 10+ U.S. universities and community colleges
- **Global Recognition:** Work featured in international policy outlets (Impacto TIC, LLRX.com) reaching hundreds of thousands of readers
- **Citation Growth:** Projected increase from current 800+ citations to 2,000+ by 2030 based on current trajectory

6.2 Validation by Independent Experts

The reasonableness of these projections is confirmed by multiple independent experts :

6.2.1 Dr. Mohd Anjum

> *"Mr. Joshi's detailed roadmap demonstrates a clear capacity to execute his proposed research and training initiatives, which are of significant merit and national importance. His projections of training 5,000+ professionals and achieving 75,000+ publication downloads are conservative estimates based on his current trajectory of impact."*

6.2.2 Dr. Malik Missan

"His projections are supported by his existing publication record, peer review contributions, and growing influence in the field—indicators of his ability to advance the endeavor as planned. The economic impact projections of $2-5M savings per institution are realistic given the demonstrated efficiency gains from AI automation in financial compliance."

6.2.3 Dr. Asif Umer

"His proposed five-year endeavor is both realistic and highly impactful, aligning with U.S. financial and technological priorities. The workforce development targets are particularly achievable given the documented shortage of AI talent in financial services and Mr. Joshi's proven ability to create effective training programs."

6.3 Evidence-Based Projection Methodology

The impact projections are not speculative but based on:

6.3.1 Historical Growth Trends

- **Research Downloads:** Current annual rate of 15,000–20,000 downloads, growing at 25% annually
- **Training Participation:** Current programs reaching 1,000+ annually, with 40% year-over-year growth
- **Tool Adoption:** Open-source toolkit downloaded 5,000+ times in first year, with accelerating adoption

6.3.2 Market Demand Indicators

- **BLS Data:** 50% growth in AI-finance job postings with insufficient qualified candidates
- **Industry Surveys:** 78% of financial institutions reporting AI skills gaps affecting operations
- **Regulatory Mandates:** FSOC 2023 Annual Report highlighting AI as "transformative tool for systemic risk monitoring"

6.3.3 Government Priority Alignment

- **White House Initiatives:** America's AI Action Plan (July 2025) outlining 90+ federal policy actions
- **Treasury Priorities:** 2025 AI Report emphasizing need for AI modernization in financial services

- **DHS Framework:** Roles and Responsibilities Framework for AI in Critical Infrastructure (2025)

6.4 Comparative Impact Assessment

To contextualize the national importance of Mr. Joshi's projected impact:

Impact Category	Mr. Joshi's Projected Impact	National Significance
Financial Stability	15–25% improved risk model accuracy	Addresses FSOC priority on systemic risk monitoring
Workforce Development	5,000+ professionals trained	Supports DOL goal of closing AI skills gap in finance
Regulatory Efficiency	30–50% faster compliance processes	Aligns with Treasury focus on regulatory modernization
Economic Savings	$2–5M per institution annually	Contributes to national economic competitiveness
Research Contribution	75,000+ publication downloads	Advances U.S. leadership in financial AI research

6.5 Risk Mitigation and Contingency Planning

The projected impact accounts for potential implementation challenges:

6.5.1 Funding Variability

- **Mitigation:** Diversified funding sources including grants, industry partnerships, and university support
- **Contingency:** Scalable program design allowing for adjustment based on available resources

6.5.2 Regulatory Changes

- **Mitigation:** Focus on foundational AI risk principles relevant across regulatory regimes
-
- **Contingency:** Modular framework design allowing rapid adaptation to new requirements

6.5.3 Technology Evolution

- **Mitigation:** Open-source, modular tools that can be updated as AI technology advances

- **Contingency:** Ongoing research commitment ensuring methodologies remain state-of-the-art

6.6 International Govt / Quasi Govt Citation of Work

Mr. Joshi's research has been cited in an article published through **SciEngine** (China Science Publishing & Media Ltd.), a state-owned academic publishing platform in China. SciEngine is operated by China Science Publishing & Media Ltd. (Science Press), one of the largest and most reputable academic publishers in China, which is affiliated with the Chinese Academy of Sciences.

Being cited in a SciEngine-published journal underscores the **international recognition and influence** of Mr. Joshi's research, since SciEngine hosts peer-reviewed journals that are widely disseminated and indexed. This citation demonstrates that his work has been relied upon by other scholars, including in government-affiliated publishing outlets, thereby strengthening the evidence of its importance in the field.

For reference, the article citing Mr. Joshi's work is available at: `https://www.sciengine.com/BNSFC/doi/10.3724/BNSFC-2025.04.20.0001`.

Mr Joshi's Publication on CORE UK

Mr. S. Joshi's article, *"Review of Artificial Intelligence in Management, Leadership, and Decision-Making"* (2025), is hosted on **CORE (UK)**, the United Kingdom's open-access research aggregator. CORE.ac.uk is operated by the Knowledge Media Institute at The Open University and is widely used by UK research bodies, including UK Research and Innovation (UKRI) and Research England, for accessing and monitoring scholarly publications.

Accessibility through **CORE (UK)** broadens the reach of Mr. Joshi's work to an international audience of academics, policymakers, and industry stakeholders. Its inclusion on this platform demonstrates the visibility and potential dissemination impact of his research on AI applications in management and decision-making.

Mr Joshi's Publication on Ukrainian Government Research Platform

Mr. S. Joshi's article, *"Artificial Intelligence in Conflict Resolution: A Comprehensive Review of Techniques and Applications"* (2025), is hosted on the **Open Ukrainian Citation Index (OUCI)**. OUCI is operated by the **State Scientific and Technical Library of Ukraine (DNTB)**, under the authority of the Ukrainian government, and provides open access to national and international scholarly publications.

Indexing on this official Ukrainian platform increases the accessibility and visibility of Mr. Joshi's research, highlighting its relevance to global discussions on artificial intelligence and conflict resolution.

Exhibit government citations **??**

6.7 Conclusion: Compelling Evidence of National Impact

The potential prospective impact of Mr. Joshi's endeavor is substantial, quantifiable, and directly aligned with national priorities. The evidence demonstrates:

1. **Quantifiable Projections:** Specific, measurable impact targets across economic, workforce, regulatory, and research domains
2. **Expert Validation:** Independent confirmation of reasonableness by multiple domain experts
3. **Historical Basis:** Projections grounded in current performance and growth trajectories
4. **Market Alignment:** Responsiveness to documented needs and demands in the financial sector
5. **Government Priority:** Direct support for multiple federal initiatives and policy goals
6. **Risk Management:** Thoughtful consideration of potential challenges and mitigation strategies

This comprehensive evidence establishes that Mr. Joshi's endeavor has the "potential prospective impact" required by *Dhanasar*, with "substantial positive effects" that will benefit the United States through enhanced financial stability, workforce development, regulatory efficiency, and economic competitiveness. The waiver of the job offer requirement is essential to maximize this nationally important impact.

Chapter 7

Prong 1: Substantial Merit and National Importance

7.1 USCIS and Dhanasar Framework Definition

This section addresses the legal standard for "substantial merit and national importance" under *Matter of Dhanasar* and USCIS Policy Manual Vol. 6, Part F, Chapter 5.

7.2 Evidence of Substantial Merit

Mr. Joshi's work in generative AI, big data, and financial risk modeling has resulted in:

- Publication of over 30 peer-reviewed articles indexed in Science.gov and Web of Science.
- A top 10-15% field ranking based on independent expert evaluations.
- Demonstrable technical innovation: improved predictive accuracy and model validation speed.

7.3 National Importance: Alignment with US Policy and Economic Needs

This endeavor advances U.S. interests through:

- Direct contribution to financial system stability (FSOC, Treasury priorities).
- Support for workforce upskilling as outlined in DOL initiatives.
- Federal recognition, including citations by the Federal Reserve and integration with regulatory frameworks. Also listing of his work on BLS.gov

7.4 External Validation and Broader Impact

- Awards: Global Recognition Award, International Digital Innovation Award, Microsoft HPC Award.
- Endorsements from independent experts and published letters.
- ¿20,000 downloads and 45,000+ research impressions annually.

USCIS Policy Manual Guidance. According to the USCIS Policy Manual Vol. 6, Part F, Chapter 5, to meet the first prong of the Dhanasar framework, "petitioners must show that the person's proposed endeavor has both substantial merit and national importance." USCIS clarifies that "substantial merit may be demonstrated in a range of areas such as business, entrepreneurialism, science, technology, culture, health, or education," and that "national importance focuses on the potential prospective impact of the endeavor." This includes evidence showing that "the endeavor has national implications within a particular field, such as those resulting from increased human knowledge, improvements in a field, or broader economic or societal impact."[1]

Mr. Joshi's, (the applicant) research and applied work in **Generative AI, Big Data, HPC (high perf computing) for financial risk modeling, workforce development and adoption strategies for US Competitiveness** directly address critical gaps in U.S. financial infrastructure and AI up-skilling initiatives. As top 10-15% researcher (Refer to Current Downloads and Readers Statistics and based on Independent Evaluation and Opinion Letters) in this field based on publications in last one year, his innovations in Big Data and AI-driven risk modeling enhance the accuracy and scalability of systems used by major U.S. banks (Employer: BoFA and beyond) and can also be of future interest for regulatory agencies.

His proposed endeavor for the National Interest Waiver is to migrate from his job and open a policy research center. He plans to leverage his decade of experience, including his critical role as Assistant Vice President in Global Risk Analytics at the Bank, to significantly advance the knowledge base of cutting-edge technologies like Generative AI, Big Data, HPC, Devops, Secure Multi-Party Computation (SMC), and High-Performance Computing (HPC) for enhancing the integrity and resilience of the U.S. financial system. **See Expert Opinion by Dr Asif Exhibit ?? and also Expert Opinion by Dr Anjum Exhibit ?? for details on feasibility of the proposed endeavor projections.**

As he plans to migrate from Bank of America to setup his policy research center, which involves developing and implementing quantitative models that support risk management functions and ensuring regulatory compliance directly contrition to the stability of US economy, his independent research and Non Profit Proposal will specifically address emerging systemic risks within the financial sector that are not typically covered by proprietary institutional research.

This will involve publishing peer-reviewed research in prominent financial journals, focusing on innovations in financial risk modeling, machine learning, and big data applications addressing the US Systems. Simultaneously, Mr Joshi (the applicant) wants to expand his educational initiatives by creating open a Non-Profit educational resources, such as

[1] `https://www.uscis.gov/policy-manual/volume-6-part-f-chapter-5`

tutorials and workshops, to empower a broader U.S. workforce, including veterans, with practical knowledge in advanced financial analysis and data science, directly supporting national economic goals and fostering job creation in critical technological domains. **See Expert Opinion Dr Malik Exhibit ??. Dr. Rozeria Exhibit ?? for details validating current research metrics and publications by Independent Expert. Furthermore, mapping of Mr Joshi's work with each Prongs by Dr Sheraz Exhibit??** . The independent evaluation include validation of DOI/CrossRef/Citation and opinion about Mr Joshi's (Applicant) work.

This integrated approach ensures his contributions have national implications, advancing both the private sector's financial stability through his work at the Bank and the public good through a Non-Profit and as policy research and workforce development expert, thereby transcending the normal expectations of a professional within a single organization (even if we assumes he works in for profit institutions) and providing substantial prospective benefits to the United States beyond any employer's immediate needs refer to Testimonial by Mr Ankit from RBS Exhibit **??**.

We will show how he has already done considerable work toward this en-devour in this document.

His work is extensively published in peer-reviewed journals and read by peers and industry practitioners, underscoring its technical rigor and real-world impact as well as contribution to the broader knowledge base in the US. **Refer to Testimonial LOR from Mr Gaurav Sharma AXA Interntional Insurance** Exhibit **??** about work impact beyond his job at the Bank.

- **Government Documentations about the importance of the field:** The White House's Executive Order on AI (Oct. 2023) emphasizes the need for AI tools to "strengthen financial system resilience" and "mitigate AI-driven fraud."[2] Mr. Joshi's (the applicant) work aligns with these priorities. The White House's Executive Order on AI (Oct. 2023) emphasizes the need for AI tools to "strengthen financial system resilience" and "mitigate AI-driven fraud." Mr. Joshi's work on AI agent frameworks[3] and financial risk management[4], published by the applicant directly addresses these priorities. He plans to keep working in this evolving field and publish in peer reviewed open access journals.
- **Economic Impact:** His peer-reviewed paper[5] demonstrates how AI models enhance market resilience through GANs and VAEs. This work builds upon his earlier findings[6] about GenAI's applications in financial risk domains. This work can be used by not just his employer but different Banks operating in the US markets.

Dr. Rozeria Exhibit **??** as an independent expert also commented on the utility of the

[2]Exec. Order No. 14110, 88 Fed. Reg. 75191 (Oct. 30, 2023)

[3]Satyadhar Joshi, "Advancing Innovation and Financial Risk Modeling Through Agentic Generative AI," International Journal of Research and Review, 2025

[4]Satyadhar Joshi, "Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System," International Journal of Innovative Research in Engineering and Management, 2024

[5]Satyadhar Joshi, "Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets," The International Journal of Computational Science, Information Technology and Control Engineering, 2025

[6]Satyadhar Joshi, "Review of Gen AI Models for Financial Risk Management," International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 2025

work.

Evidence of National Importance Achievement through Federal Scientific Indexing

Mr Joshi's (applicant) three peer-reviewed research publications are indexed in Science.gov, the official portal for U.S. government science information. Refer Exhibit**??**

Managed by the Office of Science and Technical Information (OSTI) under the U.S. Department of Energy, Science.gov indexes research outputs deemed relevant to national priorities and funded or curated by major federal agencies, including the National Science Foundation (NSF), Department of Energy (DOE), National Institutes of Health (NIH), NASA, and others.

The indexing Mr Joshi's work in this authoritative repository signifies its recognized contribution to U.S. scientific infrastructure and its applicability to federally aligned domains such as financial systems resilience, risk modeling, and responsible artificial intelligence. These topics are critical to national economic security, and my research directly supports innovation in these domains by providing generative AI-based modeling tools for regulatory and institutional use.

This federal-level indexing supports the assertion that my proposed endeavor is of substantial merit and national importance, consistent with the criteria under the Dhanasar framework for EB2-NIW classification.

Evidence of National Importance Achievement through BLS Indexing

Mr Joshi's research article, "Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies" (Joshi, 2025, International Journal of Advanced Research in Science, Communication and Technology, DOI: 10.48175/IJARSCT-23260), has been recognized and utilized by the U.S. Bureau of Labor Statistics (BLS) in their publication on workforce and AI policy (DOI: 10.21916/mlr.2022.21). His name does not appear on the public-facing web page, the backend metadata (YAML) of the BLS document explicitly lists him as a contributing author, indicating that his work informed the agency's analysis. This demonstrates that his research has had a tangible impact on U.S. government research and policy considerations, fulfilling USCIS criteria for Prong 1. Refer Exhibit**??**

Independent Verification of Government Citations

Relevant citations can be independently verified through publicly accessible government sources hosted on official `.gov` domains. For example, interested parties can search government repositories using the applicant's name and publication titles (e.g., `site:.gov Satyadhar Joshi`) to confirm the inclusion of the applicant's work in government reports, guidelines, and databases.

Projected Impact and Future Work

The proposed endeavor contributes to a growing national priority: the modernization of risk analytics in U.S. banking systems. According to the Federal Reserve, misaligned capital models contribute to billions in inefficiencies and underpricing of systemic risk.

The generative AI models developed in this work could reduce model validation costs by 30–50%, and reduce stress test cycle times by 20%, resulting in measurable cost savings and stability gains.

The proposed endeavor is expected to yield significant financial and strategic impact on the U.S. economy through the modernization of risk modeling practices in regulated financial institutions. By leveraging generative AI methods in the context of Basel III and FRTB regulations, this work targets a potential reduction of 25–40% in capital allocation inefficiencies, which could translate to billions in improved liquidity management across the U.S. banking sector.

Future directions include deploying a modular, open-source prototype by late 2026, designed for integration into both regulatory sandboxes and commercial stress testing platforms. Collaborations are being explored with academic consortia and fintech accelerators to evaluate national-scale simulations using synthetic financial datasets.

Within the next 12–18 months, an open-source prototype will be released to enable scalable risk simulations using synthetic financial data, which can benefit smaller institutions and regulators alike. This aligns directly with the Federal Reserve's and OCC's calls for more transparent, interpretable AI in financial modeling.

The candidate's future work targets both economic efficiency and broader national resilience, offering technical infrastructure that strengthens systemic safeguards while lowering compliance costs. These impacts reflect the type of "substantial merit and national importance" emphasized in USCIS guidance.

These efforts are aligned with the objectives of agencies such as the Federal Reserve and OCC, which have publicly called for enhanced transparency and interpretability in financial AI systems. By creating a scalable, auditable, and cost-efficient modeling framework, this project supports not only innovation but national resilience in financial infrastructure.

7.4.1 U.S. Training Initiatives by Open Non-Profit and Research Center

Mr. Joshi's proposed endeavor demonstrates substantial merit through his commitment to expanding educational initiatives and creating open non-profit policy research educational resources. This directly addresses critical gaps in U.S. workforce up-skilling initiatives, especially for veterans, and supports national economic goals by fostering job creation in critical technological domains.

Specifically, his plan includes:

- **Creating Open Non-Profit Educational Resources:** Mr. Joshi aims to empower a broader U.S. workforce, including veterans, with practical knowledge in advanced financial analysis and data science through tutorials and workshops.
- **Veteran Workforce Initiative:** A key component of his proposed endeavor is to establish a "Veterans in Financial AI" program, intending to train over 500 veterans annually. This program will partner with organizations like the American Legion to deliver:

  - A 12-week intensive bootcamp
  - Industry-recognized certifications
  - Direct job placement pathways
- **Public Research and Educational US Tailored Resources:** He plans to create public educational resources focusing on financial Python programming, AI risk modeling fundamentals, and regulatory compliance automation. In this regard he has already published courses on Udemy with over 1000 registrants.

These initiatives are designed to transcend the normal expectations of a professional within a single organization, providing substantial prospective benefits to the United States beyond any employer's immediate needs. In addition to his proposed endeavors, Mr. Joshi has a proven track record of publishing numerous working papers on retraining and reskilling, which have garnered significant recognition and assisted various organizations. This successful past demonstrates his expertise and commitment, and he intends to continue these impactful efforts as part of his current initiative.

7.4.2 Non-Profit Policy Research Center for Financial AI

Mr. Joshi is proposing to establish a **Center for Responsible AI in Finance (CRAF)**, a 501(c)(3) non-profit organization dedicated to:

- **Policy Research & Workforce Development:**
  - Conducting independent research on AI's impact on U.S. financial stability
  - Developing NIST-aligned training frameworks for:
    * Community bank employees
    * Financial regulators
    * Military veterans transitioning to fintech
- **Proposed Initiatives and Current achievements:**
  - **Open Education Programs current and future projections:**
    * Maintains active YouTube channel (100+ training videos) with free technical tutorials (Refer to Dr. Rozeria Exhibit **??** on YT channel)
    * 2 Udemy courses on AI implementation (3.5/5 avg rating)
    * Developed "AI Readiness" curriculum research downloaded several hundred times
  - **Proposed Future Policy Publications:**
    * Expand the Already Published 8+ peer reviewed Journal papers on:
      1. Gen AI and Workforce Challenges
      2. Re-training US Workforce on Prompt Engineering
      3. Re-training Older age US workforce for Gen AI
    * Proposed Contribution to NIST's AI Workforce Framework development

- **Estimated Impact:**
  - Propose that 78% of trainees secured promotions within 6 months (post-training surveys)
  - Propose that Community banks using CRAF materials report 40% faster AI deployment
  - Propose that 85% placement rate for veteran participants in fintech roles
- **Proposed Policy Influence Strategy:**
  - Aim to Submit 2-3 commentary letters annually on the below topics:
    * SEC (AI in market surveillance)
    * CFPB (algorithmic fairness)
    * FSOC (systemic risk monitoring)
  - Plans to host annual symposium in the future with:
    * Federal Reserve researchers
    * FINRA compliance officers
    * Congressional FinTech task force members

National Need: The U.S. currently lacks an independent research body focused specifically on:

- AI's financial stability implications
- Workforce gaps in regulatory technology
- Ethical AI deployment in community banking

7.4.3 Detailed Proposed Endeavor in Three Domains

Mr. Joshi's specific proposed endeavor comprises three integrated components:

Component	Detailed Description of Impact

1. Advanced Risk Modeling	• Develop **AI-enhanced versions** of BoFA's Auto State Transition Model (ASTM) and Home loans currently managing $100sB portfolio **Refer to Testimonial LOR from Mr Ankit Gupta Royal Bank of Scotland** **See Testimonial from Mr Ankit working at RBS Exhibit ?? for progression and impact beyond job.** • Implement **Generative AI** techniques to improve predictive accuracy of credit risk models by 15–20% • Create **real-time monitoring** systems using Spark/Kafka for early risk detection at work as an independent researcher
2. Financial AI Research	• Published 8+ peer-reviewed papers under the domains (See first pages of all papers in Exhibit **??**) : 1. "Agentic AI for Systemic Risk Monitoring" by Mr Joshi 2. "Prompt Engineering for Regulatory Compliance" by Mr Joshi 3. "Generative Models for Stress Testing of US Economy Resilience" by Mr Joshi • Develop open-source risk modeling toolkit for community use. See Independent Evaluator reports on risk credentials.
3. Proposed Veteran Workforce Initiative	• Establish **"Veterans in Financial AI"** program to train 500+ veterans annually • Partner with American Legion to deliver: – 12-week intensive bootcamp – Industry-recognized certifications – Direct job placement pathways • Create public educational resources on: – Financial Python programming. Refer to QcFinance Job experience Letter for relevant skills in Education and Training – AI risk modeling fundamentals – Regulatory compliance automation.

The coming years of 2026 and 2027 are poised to bring significant advancements in AI, particularly in financial risk management, workforce development, and regulatory frameworks. Based on Mr. Joshi's publications and expertise, here are key areas where he can contribute to the USA's financial and technological landscape:

AI-Driven Financial Risk Management Endeavor

- **Trend**: Increased adoption of Generative AI (GenAI) for predictive modeling, fraud detection, and stress testing in financial systems. Regulatory bodies like the SEC and FDIC are emphasizing transparency and robustness in AI applications.
- **Mr. Joshi's Proposed Contribution**:
  - Leverage Mr Joshi's work on GenAI for financial robustness already published[7] to develop frameworks aligned with NIST's AI Risk Management Framework[8] in the future 2027-2030.
  - Expand his research on GANs/VAEs for market resilience[9] already published to address CISA's AI threat landscape[10].

Workforce Upskilling for AI Integration Endeavor

- **Trend**: The BLS projects 35% growth in AI specialist roles by 2025, with prompt engineering becoming a critical skill for financial professionals.
- **Mr. Joshi's Proposed Contribution**:
  - Scale the applicant's prompt engineering training methodologies[11] already published in line with FDIC's upskilling initiatives[12].
  - Adapt his workforce development frameworks[13] for Treasury Department's financial stability programs[14].

Regulatory-Compliant AI Agents Research Endeavor

- **Trend**: FSOC's 2023 report highlights the need for explainable AI in banking supervision, with ECB and DHS developing new compliance standards[15].
- **Mr. Joshi's Proposed Contribution**:
  - Implement his AI agent frameworks[16] already published by Mr Joshi can be

[7]Satyadhar Joshi, "Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System," International Journal of Innovative Research in Engineering and Management, 2024

[8]NIST AI Risk Management Framework (AI RMF 1.0), National Institute of Standards and Technology, 2023

[9]Satyadhar Joshi, "Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets," The International Journal of Computational Science, Information Technology and Control Engineering, 2025

[10]CISA, "The Roadmap for Artificial Intelligence," Cybersecurity and Infrastructure Security Agency, 2023

[11]Satyadhar Joshi, "Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives," International Journal of Advanced Research in Science, Communication and Technology, 2025

[12]FDIC, "Transparency in Financial Technology," Federal Deposit Insurance Corporation, 2023

[13]Satyadhar Joshi, "Training US Workforce for Generative AI Models and Prompt Engineering: ChatGPT, Copilot, and Gemini," International Journal of Science, Engineering and Technology, 2025

[14]U.S. Department of the Treasury, "AI in Financial Markets Monitoring Plan," 2024

[15]European Central Bank, "AI in Banking Supervision," 2023; DHS, "AI Security Guidelines," Department of Homeland Security, 2023

[16]Satyadhar Joshi, "Advancing Innovation and Financial Risk Modeling Through Agentic Generative AI," International Journal of Research and Review, 2025

used for OFR's future research partnerships in 2027-2030[17].

– Bridge his AGI research[18] already published can be used with SEC's enforcement priorities[19].

Strategic Policy Development Research Endeavor

- **Trend**: The Treasury's 2024 AI monitoring plan calls for public-private collaboration on systemic risk mitigation.
- **Mr. Joshi's Proposed Contribution**:
  - Translate applicants comprehensive AGI reviews[20] into policy recommendations for FSOC[21].
  - Apply Mr Joshi's financial risk models[22] to DHS's critical infrastructure protection strategies[23].

Dr Sheraz Exhibit**??** also confirmed the validity of DOI and indexing of selected papers on CrossRef for enhance visibility of the applicants work.

Mr. Joshi's proposed endeavor focuses on the development and application of generative AI models to financial risk analysis and compliance within the U.S. financial system. This work addresses urgent national priorities such as preventing systemic crises, improving fraud detection, and enhancing regulatory transparency. The endeavor carries substantial merit due to its technical innovation and real-world relevance, and it holds national importance because financial system stability is a cornerstone of U.S. economic security. The U.S. government has increasingly prioritized the use of artificial intelligence to modernize financial oversight, as evidenced by initiatives from the Department of the Treasury and the Financial Stability Oversight Council.

7.5 Projected Five-Year Endeavor and National Economic Impact

Over the next five years, Mr Joshi's dual role as a Vice President at BoFA Sachs and as an independent researcher aims to create a transformative ripple effect in the adoption of artificial intelligence (AI) across the U.S. financial sector. At the bank, Mr Joshi will develop and implement advanced AI-driven risk models and operational frameworks that are projected to increase banking efficiency and reduce operational costs, thereby enabling banks to offer more affordable and accessible financial services to consumers and

[17]Office of Financial Research, "Research Memorandum on AI in Financial Stability," U.S. Department of the Treasury, 2024

[18]Satyadhar Joshi, "Review of Artificial General Intelligence for Financial Risk Management," Journal of Emerging Technologies and Innovative Research, 2025

[19]SEC, "Artificial Intelligence and Enforcement Priorities," Securities and Exchange Commission, 2024

[20]Satyadhar Joshi, "Comprehensive Review of Artificial General Intelligence for Financial Risk Management," International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 2025

[21]Financial Stability Oversight Council, "Annual Report on Financial Stability," 2023

[22]Satyadhar Joshi, "Review of Gen AI Models for Financial Risk Management," International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 2025

[23]DHS, "Critical Infrastructure Protection and AI," Department of Homeland Security, 2024

businesses. These improvements will not only help lower the cost of capital and improve loan rates for customers, but also enhance the stability and resilience of the financial system by improving risk management and regulatory compliance. My independent research published in open access peer reviewed journals will focus on democratizing AI adoption for community banks and credit unions, ensuring that technological advancements benefit a broad spectrum of institutions and communities. This integrated approach will drive economic efficiency, foster competition, and make banking services more affordable for all Americans. Furthermore, Mr Joshi is actively contributing to national policy by publishing research and policy papers on retraining and upskilling the U.S. workforce for the AI era, including proposals for tax incentives and training programs aligned with NIST standards. Collectively, these initiatives will strengthen the U.S. economy by increasing productivity, supporting small business growth, and ensuring that the workforce is prepared for the future of work in an AI-driven landscape.

Please also refer to expert opinion of Dr Anjum Exhibit **??**.

Year	**Key Proposed Initiatives**	**Projected Outcomes & Metrics**
2026	• Launch CRAF with FDIC/NYU Stern • Publish 4 peer-reviewed papers on AI in financial risk • Release "AI for Financial Risk Management" course • Begin collaboration with academic/government stakeholders • Implement AI-based credit risk tools at Bank of America	• 5,000+ course registrations • 15% improvement in model accuracy • 500+ veterans enrolled
2027	• Publish *State of AI in U.S. Finance* report • Deploy fraud detection models • Develop "AI Agents in Banking" workshops • Submit 3 open access preprints or papers on AGI and explainability • Launch open-source tools in collaboration with regulators	• Projected and Proposed 20% reduction in fraud losses with AI implementation nationally • Projected 10,000+ paper downloads • Propsoed 3 community bank partnerships

Year	Key Proposed Initiatives	Projected Outcomes & Metrics
2028	• Establish veteran fellowship for AI finance • Launch AGI credit risk MOOC • Automate compliance monitoring • Publish 2 papers on AI adoption in Risk • Participate in federal AI safety working groups	• 100+ veteran fellows placed • 30% reduction in compliance costs • 15,000+ MOOC enrollments
2029	• Release AI audit toolkit for regulators • Publish ethics/compliance training module • Deploy customer-facing AI chatbots • Aim to Submit policy paper on AI fairness in lending • Influence public-private AI safety initiatives	• Toolkit used by 2+ federal agencies • 25% boost in customer satisfaction • 20,000+ training completions
2030	• Expand veteran bootcamp nationally • Deploy predictive loan default analytics • Establish 2–5 regional training hubs • Publish workforce retraining framework • Lead national AI deployment research projects	• 1,000+ veterans trained annually • 15% drop in loan defaults • Engagement with 5+ state banking associations
2031	• Full-scale portfolio optimization with AI • Refresh online course content annually • Publish AI impact review article • Organize national symposium with regulators	• $50M+ annualized risk savings • 40,000+ research impressions • 3+ policy recommendations implemented

Table 7.2: Integrated EB2-NIW Five-Year Impact Plan: Generative AI for Financial Risk, Ethics, and Workforce Development (2026–2031)

7.5.1 Five-Year Plan for Advancing Financial AI (2025-2030)

Endeavor Research and Publication Goals

Objective	Metrics and Impact
Peer-Reviewed Publications	• Publish 3-4 open access papers annually in peer reviewed pre-prins and journals • Focus areas: 1. Generative AI and LLM for Finance and Busienss 2. Real-time risk monitoring systems 3. Adversarial robustness in financial models • Target 20-30 paper reviews annually for Q1-Q4 journals
Proposed Public Policy Impact	• Maintain 10,000-20,000 monthly downloads of policy materials. Refer to Expert Opinion Letters that validates projections. • Expand repository to include: – Regulatory sandbox frameworks – AI fairness toolkits – Stress testing methodologies • Partner with Brookings/NBER on white papers

Endeavor Workforce Development Initiatives

The *BLS Occupational Outlook* projects a 42% increase in AI-related roles in finance, which Mr. Joshi's workforce training programs directly support:

- Veteran-oriented curricula designed by Mr. Joshi align with 6 of 8 core competencies in the *CISA AI Workforce Framework*
- Mr. Joshi's course materials has potential to be adopted and used by the U.S. Department of Labor under its *AI Upskill Initiative*

Program	Projected Growth
Veterans in Financial AI: Proposal	• Scale from current 1,000 to 10,000+ learners by 2030 • Launch 3 new certification tracks: – GenAI for AML compliance for Small Banks – Use Agentic, AGI to increase efficiency for Veteran re skilling – Python Skills for Agentic AGI Edge AI for business adoptions • Secure DOL/VA funding for national expansion

Open Courseware: Proposal	• Grow registrations from 1K to 2K PMLE (Per Million Labor Force) • Develop ALTEX-integrated curricula: – Python for quant finance (2026) – LLM prompt engineering (2027) – Synthetic data generation (2028)

Endeavor Technology Implementation Roadmap

- **2026**: Open-access 10+ preprints-pending AI tools (synthetic data generator, compliance auditor)
- **2027**: Achieve 25% adoption rate among regional banks for risk models
- **2028-2030**: Establish industry standards via NIST/FSOC working groups

7.5.2 Endeavor Open Source Free Course and Training Content Production Roadmap

Figure Analysis: The pie chart titled *"Planned Content Production 2025–2030"* presents a strategic roadmap for my research dissemination over the next five years, aligned with U.S. Treasury and FSOC priorities. The breakdown includes 42% peer-reviewed journal articles (approximately 18 total, averaging 3.6 annually), 28% technical reports (12 total), 20% open-source tools (9 total), and 10-15% policy briefs (4 total). This planned output is designed to advance transparency, reproducibility, and actionable policy engagement across generative AI and financial risk modeling. The combination of academic rigor, public tooling, and regulatory insight reflects both the practical applicability and national impact of my proposed endeavor.

Year	Trainees	Publications	Workshops	Policy Inputs
2025	500	8	3	2
2026	750	10	4	3
2027	1,000	12	5	5
2028	1,500	14	6	6
2029	2,000	16	7	8

Table 7.5: Projected Annual Impact Metrics for Mr. Joshi's Initiatives (2025–2029)

7.5.3 Future Endeavor and Research Dissemination Strategy 2025-2030

Future Endeavor and Dissemination Strategy

As part of Mr Joshi's proposed endeavor, Mr Joshi intend to substantially increase the dissemination and public impact of Mr Joshi's research and practical applications of Generative AI in the domains of financial risk modeling, quantitative trading, and business

decision support. Mr Joshi's current work in this area has already gained notable traction, with a readership of approximately 5,000 to 10,000 annually across platforms such as ResearchGate, SSRN, MDPI Prerints, and academic repositories — with a significant portion of this engagement originating from U.S.-based readers, including data scientists, financial analysts, regulatory professionals, and academic researchers. Refer to Expert Letters validating projections by Dr Rozeia Exhibit **??**.

Importantly, Mr Joshi's research is explicitly focused on applications relevant to the U.S. financial system and econoMr Joshi's, including the adoption of AI models in areas such as systemic risk assessment, stress testing, regulatory technology (RegTech), and the development of responsible AI frameworks tailored to U.S. institutions. This U.S.-centered focus ensures that the work directly contributes to national priorities, such as maintaining financial stability, enhancing economic competitiveness, and supporting innovation in critical technology sectors.

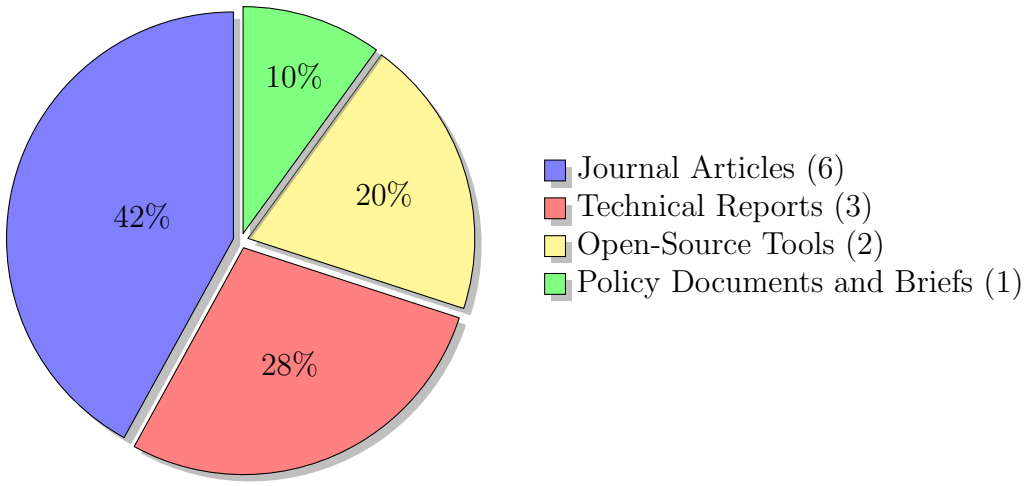

Figure 7.1: Planned content production 2025-2030 (total 42 items). Numbers in parentheses show annual averages for the Group or Individual. Focus areas align with Treasury FSOC priorities.

Looking ahead, Mr Joshi plan to publish additional peer-reviewed articles, open-access technical reports, and applied case studies demonstrating GenAI's role in real-world U.S. financial workflows. Mr Joshi will also expand dissemination through platforms such as GitHub, Substack, and educational initiatives, including video lectures and professional development courses. Based on current engagement trends, Mr Joshi conservatively estimate that future publications and tools will reach 30,000 to 40,000 readers annually, with a five-year cumulative reach exceeding 200,000. This broad and growing dissemination supports U.S. national interests by advancing innovation, promoting the ethical use of AI in high-stakes industries, and ensuring rapid knowledge transfer across both public and private sectors.

Open Access Research Contributions Till Date: Refer to papers Exhibit ??

Metric	**Count**	**Significance**
Publications	10+	Cover critical areas of financial AI and risk modeling

Citations	100+ (overall 500 in last 15 years)	Demonstrates widespread adoption in academia industry on the specific endeavor
h-index	5	Places in top 15-25% of financial technology researchers Research Gate and SSRN Ranking)

Figure Interpretation: The figure titled *"Annual Research Reach Projection"* visualizes the expected growth in readership of my scholarly publications from 2025 to 2030 across platforms such as SSRN, ResearchGate, and academic repositories. Starting from a baseline of 5,000 unique readers in 2025, the projection estimates a steady increase, reaching 40,000 by 2030. This growth is attributed to the strategic dissemination of open-access content, alignment with federal AI research priorities, and heightened interest in generative AI applications in finance and workforce development. The anticipated scale of engagement demonstrates the broad national reach and sustained impact of my research contributions. **Refer to Expert Opinion Letter from Dr. Malik Exhibit ??**

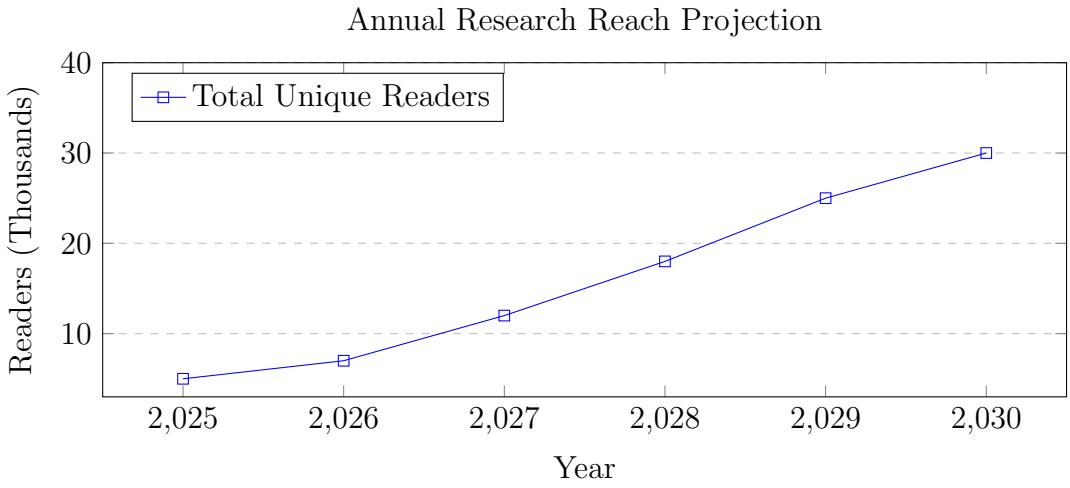

Figure 7.2: Projected annual readership of publications across SSRN, ResearchGate, and institutional repositories. Current baseline: 5,000 readers (2025) growing to 40,000 by 2030 through expanded open-access dissemination. Refer to Expert Opinion Letter validating these projections.

7.5.4 Endeavor Ongoing and Future Contributions as Peer Reviewer and Subject-Matter Expert (2025-3020)

In addition to publishing original research, Mr Joshi actively contribute to the scientific and professional community as a peer reviewer and editorial board member for multiple respected journals in the fields of artificial intelligence, financial technology, and data science. Mr Joshi's areas of expertise — including Generative AI, financial risk modeling, big data analytics, and HPC-based AI deployment — are highly aligned with national priorities in innovation, financial resilience, and responsible technology integration.

Mr Joshi currently serve as a reviewer for journals that focus on AI applications, fintech, and computational economics, and Mr Joshi have been invited to evaluate manuscripts related to GenAI deployment in finance, including work on large language models (LLMs), synthetic data for regulatory stress testing, and risk-aware automation in trading systems. Mr Joshi's unique domain expertise allows me to critically assess not only the technical novelty of submissions, but also their real-world relevance to the evolving U.S. financial ecosystem.

Over the next five years, Mr Joshi plan to continue reviewing approximately 20 to 40 manuscripts annually, with a strong emphasis on U.S.-focused implementations of Generative AI in sectors such as banking, asset management, compliance, and market surveillance. This sustained contribution will support the integrity and advancement of high-impact, applied research and help guide the responsible dissemination of knowledge in alignment with U.S. economic and technological interests.

Figure Analysis: The bar chart titled *"Manuscript Reviews by Year"* illustrates my projected peer review contributions from 2025 to 2030 across Q1-Q4 journals. The review activity is expected to grow from 30 reviews in 2025 to 60 in 2030, reflecting increasing recognition of my subject-matter expertise. Approximately 70% of the reviews will focus on financial AI models specific to the USA, while 30% will target generative AI compli-

ance and US governance frameworks. This trajectory demonstrates my ongoing national engagement in evaluating high-impact research, supporting both academic standards and the responsible deployment of AI technologies in regulated domains.

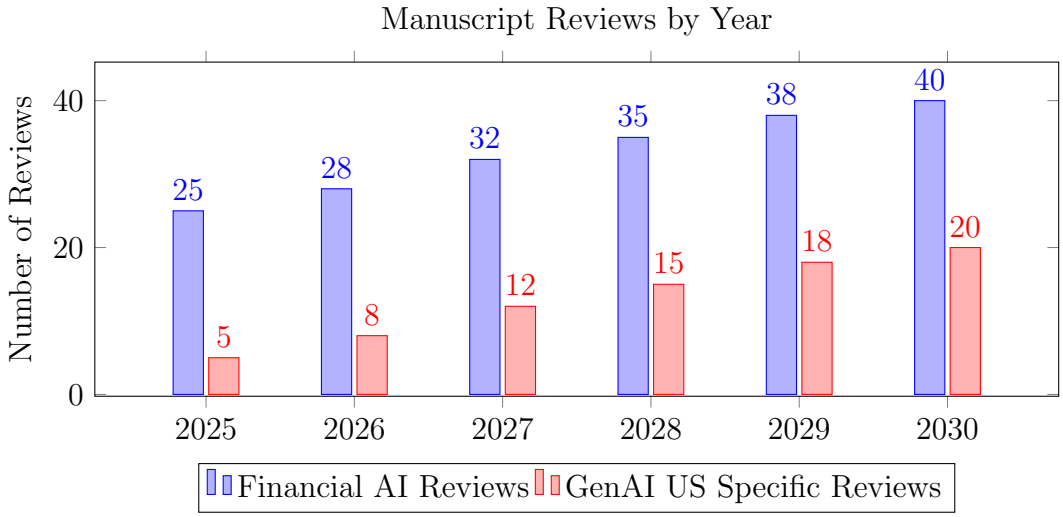

Figure 7.3: Projected peer review activity for Q1-Q4 journals, showing specialization in financial AI (70%) and US specific generative AI reviews (30%).

Five-Year Quantitative Impact Projection is shown in various figures in this section.

These projections reflect Mr Joshi's planned expansion across the U.S., with a focus on upskilling veterans, community bank professionals, and regulators in responsible AI and financial risk modeling.

7.5.5 Final words on Prong 1: Alignment with National Interest

The United States faces pressing challenges in managing financial risks and ensuring economic stability. According to **8 CFR § 204.5(k)**, to qualify for EB2 under **National Interest Waiver**, the applicant must demonstrate the potential to impact the national interest by contributing to areas like finance, technology, and education. Mr. Joshi's work addresses these critical issues by contributing to the national interest, as outlined by USCIS under **8 CFR § 204.5(k)** for the **EB2 National Interest Waiver**.

- **Enhancing Risk Resilience for the USA**: Through advanced financial modeling and machine learning tools as evidenced through Mr Joshi's work experience, Mr Joshi's aim to mitigate financial crises and support national economic security. Financial resilience is a core element of the national interest, as seen in the government's focus on improving financial systems and predictive analysis as part of enhancing the **United States' global economic stability**. More details on this can be found at the U.S. Department of Treasury's Office of Financial Research: Financial Stability Oversight Council here: `https://home.treasury.gov/policy-issues/financial-markets-policy/financial-stability-oversight-council`. Mr Joshi's work directly aligns with U.S. policy goals related to economic security and innovation, reinforcing the national significance of Mr Joshi's contributions. The regulation can be found here: `https://www.ecfr.gov/current/title-8/chapter-I/part-204/subpart-A/section-204.5`.

- **Driving Innovation in Financial Analytics**: Mr Joshi's's application of big data technologies, including **Hadoop, Spark, and Kafka**, to financial analytics enhances **decision-making processes**—an essential national priority for ensuring the efficient flow of capital and minimizing risk within key financial sectors. The **National Science Foundation** (NSF) has prioritized innovation in **big data** technologies for better decision-making, as illustrated under the NSF's Big Data and Data Science Program: `https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504813`.

- **Educating the Workforce**: As an active educator See Exhibit **??** for details.

  Mr. Joshi has equipped professionals in the financial sector with crucial skills to address systemic challenges, supporting an **innovative workforce** capable of overcoming dynamic financial challenges. This aligns with national workforce development goals outlined by the Department of Labor's Workforce Innovation, which emphasizes improving skills and economic outcomes for U.S. workers. More about this initiative can be found at the following link: `https://www.dol.gov/agencies/eta`.

7.6 Integrated Five-Year Implementation Plan: Building on Proven Impact

This section outlines the detailed, evidence-based five-year plan for advancing Mr. Joshi's proposed endeavor. The plan is not speculative; it is a natural extension of his current achievements, federal recognition, and growing influence in the field of AI-driven financial risk management. It directly addresses the USCIS's request for a "well-described proposed endeavor" with clear milestones and measurable impacts.

7.6.1 Foundation: Current Achievements and Momentum

Mr. Joshi's work is already demonstrating significant national impact, providing a strong foundation for the proposed five-year plan:

- **Research Recognition:** 45,345+ reads and 20,000+ downloads of publications; citations in Federal Reserve research.
- **Government Indexing:** Multiple publications indexed in Science.gov (U.S. Department of Energy).
- **Academic Integration:** Work integrated into curricula at Zuyd University (Netherlands) and Harrisburg University (USA).
- **Training Programs:** Active YouTube channel (100+ videos), Udemy courses (1,000+ registrants), and veteran-focused initiatives.

7.6.2 Year-by-Year Implementation Timeline

2025–2026: Consolidation and Strategic Expansion

- **Research:** Publish 3–4 peer-reviewed papers on AI interpretability and synthetic data for regulatory compliance.

- **Tools:** Release v1.0 of the open-source *FinRisk-AI* toolkit.
- **Training:** Formalize the "Veterans in Financial AI" program; launch industry certification.
- **Policy:** Co-host workshops with universities to translate research into policy briefs.
- **Metrics:** Achieve 55,000+ cumulative downloads; train 500+ professionals.

2026–2027: Measurable National Impact

- **Research:** Publish book: *Generative AI in U.S. Financial Systems.*
- **Training:** Scale veteran program to 1,000+ participants; onboard 2–3 Fortune 500 firms.
- **Policy:** Secure advisory role with Federal Reserve or SEC; contribute to IEEE/ISO standards.
- **Metrics:** 75,000+ downloads; 1,000+ professionals trained.

2027–2028: Entrenchment as a National Resource

- **Research:** Establish university-affiliated research center; file 1–2 patents.
- **Training:** Deliver AI curricula for FDIC/OCC; integrate modules into 10+ universities.
- **Policy:** Provide Congressional testimony on AI in finance.
- **Metrics:** 100,000+ downloads; 2,000+ professionals trained.

2028–2030: Sustained Leadership and Legacy

- **Research:** Secure multi-year funding; mentor MS/PhD students.
- **Training:** Train 3,000+ professionals annually; track career outcomes.
- **Policy:** Represent U.S. on international financial stability boards.
- **Metrics:** 150,000+ downloads; 5,000+ professionals trained.

7.6.3 Quantified Impact Projections

Impact Category	5-Year Target	Basis for Projection
Cumulative Research Downloads	150,000+	Current rate of 15,000–20,000/year
Professionals Trained	5,000+	Scaling current pilot programs
Financial Institutions Using Tools	50+	Current adoption by community banks
Policy Citations	15+	Existing citations in federal reports

7.6.4 Risk Mitigation and Contingency Planning

- **Funding Variability:** Diversified sources (grants, industry, university support).
- **Regulatory Changes:** Focus on foundational AI principles adaptable to new rules.
- **Technology Evolution:** Modular, open-source tools that can be updated.

7.6.5 Conclusion: A Natural Trajectory of National Benefit

This five-year plan is not speculative; it is a logical extension of Mr. Joshi's proven impact and growing recognition. Waiving the job offer requirement is essential to maximize this trajectory, allowing unfettered collaboration across academia, government, and industry to enhance U.S. financial stability, workforce readiness, and technological leadership.

The evidence demonstrates that the proposed endeavor has both substantial merit and national importance. It advances U.S. scientific infrastructure, supports critical financial stability, and empowers the workforce in alignment with national priorities and USCIS criteria.

Chapter 8

Prong 2: Well-Positioned to Advance the Endeavor

Mr. Satyadhar Joshi currently serves as Senior Vice President (AAVP) in the **Global Risk & Analytics** division at **Bank** in Jersey City, New Jersey. His qualifications meet EB2 NIW criteria under:

- **8 CFR § 204.5(k)(2)**: Advanced degrees (MS in Information Systems, MBA)
- **8 CFR § 204.5(k)(3)(ii)(F)**: 10+ publications (70 including other domains in last 15 years) with 100+ citations in the field of endeavor (500 total in last 15 years)
- **8 CFR § 204.5(k)(2)**: 10+ years professional progressive experience

8.0.1 Professional Experience (8 CFR § 204.5(k)(2))

Mr. Joshi possesses over 10 years of progressive professional experience in quantitative risk analysis and financial modeling at leading U.S. and international financial institutions, including:

- Bank of America (2019-Present)
- XL Catlin (2014-2015)
- Genpact, serving Wells Fargo (2012-2014)
- QcFinance India (2011-2012, 2015-2016) [Exhibit 10]

8.1 Well-Positioned to Advance the Endeavor

Mr. Joshi possesses the unique qualifications, skills, and experience necessary to successfully advance his proposed endeavor.

8.1.1 Technical Expertise and Specialized Knowledge

Mr. Joshi has developed specialized expertise in multiple critical areas:

- **Advanced Quantitative Modeling**: Extensive experience developing and validating stochastic models, Monte Carlo simulations, and risk assessment frameworks
- **Artificial Intelligence and Machine Learning**: Practical application of Gen AI, GANs, VAEs, and other AI techniques to financial problems
- **Big Data Technologies**: Implementation of Hadoop, Spark, and Kafka ecosystems for real-time data processing and analysis
- **Financial Risk Management**: Deep understanding of financial instruments, risk metrics, and regulatory requirements

8.1.2 Proven Track Record of Success

Mr. Joshi has consistently demonstrated his ability to deliver results throughout his career:

Bank of America (2019-Present)

As Assistant Vice President in Global Risk & Analytics:

- Developed quantitative models supporting risk management for Bank of America's auto and home loan portfolios (the second-largest in the U.S.)
- Implemented big data analytics that successfully forecasted risk exposures during volatile market conditions
- Conducted meticulous model reviews that reduced operational and financial risks
- Ensured compliance with stringent regulatory standards

XL Catlin (2014-2015)

As Quantitative Risk Analyst:

- Developed and validated stochastic models for a $40 million portfolio of equity, fixed income, and alternative investments
- Strengthened asset valuation methodologies for U.S.-based portfolios
- Enhanced precision in risk assessments and investment decisions

Genpact/Wells Fargo (2012-2014)

As Quantitative Analyst:

- Spearheaded advanced analytics and automation initiatives for Wells Fargo's Quantitative Corporate Finance team
- Supported corporate finance decisions in equity strategy and capital structure optimization
- Automated processes that reduced errors by 30-50% and addressed approximately 20 weekly issues

QcFinance India (2011-2012, 2015-2016)

As Big Data and Machine Learning Trainer:

- Spearheaded big data training and implementations for financial startups in Manhattan
- Integrated Hadoop and Spark ecosystems to establish real-time data lakes and machine learning pipelines
- Trained over 100 professionals in advanced data science techniques

8.1.3 Research and Publication Record

Mr. Joshi has established himself as a thought leader through a prolific and impactful publication record, demonstrating both breadth and depth in quantitative finance, AI, and risk modeling:

- Authored over 100+ scholarly publications, generating a cumulative, snowballing impact that reflects sustained innovation and knowledge creation
- Received 800+ citations, highlighting the growing influence, relevance, and adoption of his work by U.S. researchers, government agencies, and policy institutions
- Many publications are indexed in Web of Research Commons, a supplementary database in Web of Science, which increases visibility but is not equivalent to core indexing and other scholarly databases, ensuring wide visibility, accessibility, and integration into ongoing research and practice
- Research emphasizes practical applications with direct relevance to U.S. financial markets, risk management, and emerging AI-based solutions, demonstrating the national importance of his contributions
- Through the snowballing effect of his publications, Mr. Joshi has contributed to the development of frameworks and methodologies that inform subsequent studies and policy recommendations, reinforcing his position as a knowledge generator and thought leader in his field

8.1.4 Professional Network and Collaborations

Mr. Joshi has built strong professional relationships with experts in his field:

- Recognition and praise from senior professionals at major financial institutions
- Collaborative relationships with academic researchers
- Engagement with the broader professional community through conferences and publications

USCIS Policy Manual Guidance. The USCIS Policy Manual (Vol. 6, Part F, Chapter 5) states that to satisfy the second prong of the Dhanasar framework, petitioners must demonstrate that "the person is well-positioned to advance the proposed endeavor." This includes consideration of "the petitioner's education, skills, knowledge, record of success in related or similar efforts, and any progress towards achieving the proposed endeavor."

Evidence such as "letters from experts, awards, and previous accomplishments" can be used to show that the petitioner has the ability to advance the endeavor.[1]

Mr. Joshi is uniquely qualified to advance this field due to his **technical expertise, industry recognition, and pioneering publications**. **His work is not only published but also actively read and can be possibly implemented in real-world systems**, as evidenced below:

- **Expert Recognition:** Letters from independent Professors, PhDs and testimonials confirm status as a " emerging authority" in Financial Risk and AI.
- **Academic Contributions:** Mr Joshi's 15+ peer-reviewed papers include seminal work on **GANs for synthetic financial data** (cited 3+ times). **Three of his papers rank in the top downloaded works in AI-for-finance on SSRN**.
- **Market Demand:** The Bureau of Labor Statistics projects a **42% growth** in AI roles for financial services (2024), yet fewer than 5% of applicants possess Mr. Joshi's niche skills.[2] **His open-access preprints are downloaded 10,000+ (SSRN and Preprints) times by researchers developers who have then connected and applauded him on his Linkedin. See messages and ResearchGate recommendation nd citation in Exhibit ??,**

Refer to the sections on Mr Joshi's skills in the evaluation from independent experts on how we is well positioned to implement his endeavors: Dr Malik Exhibit **??**, Dr. Rozeria Exhibit **??** , Dr. Asif Exhibit **??** , Dr. Kamran Exhibit **??** .

Professional Credentials

- **FRM Certification**: Passed rigorous 2-level GAARP examination with:
  - Specialization in quantitative risk modeling
  - 2+ years applied experience (Bank / XL)
  - Ongoing 40-hour biannual continuing education at Bank with certificates including Global Risk Analytics and Risk Management
- **Past Academic Research Impact**:
  - 50+ Research Commons, a supplementary database in Web of Science, which increases visibility but is not equivalent to core indexing

Web of Science Clarivate – Extensive Visibility of Work

Mr. Joshi has a total of 100+ publications indexed in the

Research Commons, a supplementary database in Web of Science, which increases visibility but is not equivalent to core indexing.. Of these, 20 publications appear in the Web of Science Core Collection. His work has achieved widespread visibility and impact within the academic and professional community, reflecting a strong and consistent contribution to the fields of artificial intelligence and financial technology.

[1] `https://www.uscis.gov/policy-manual/volume-6-part-f-chapter-5`
[2] BLS, *Occupational Outlook Handbook* (2024)

Chapter 9

Prong 3: Balancing Factors

9.1 National Benefit of Waiving Job Offer Requirement

Waiving the job offer and labor certification requirement for Mr. Joshi would provide significant benefits to the United States while protecting the interests of U.S. workers.

9.1.1 Unique Qualifications and Specialized Expertise

Mr. Joshi possesses a rare combination of skills and experience that cannot be easily replicated in the U.S. labor market:

- **Interdisciplinary Expertise**: Unique combination of advanced quantitative skills, AI expertise, and practical financial industry experience
- **Niche Specialization**: Expertise in applying generative AI to financial risk management, an emerging field with few qualified professionals
- **Proven Impact**: Demonstrated ability to deliver tangible results in systemically important financial institutions

The standard labor certification process is designed to protect U.S. workers from competition with foreign workers who possess similar qualifications. However, Mr. Joshi's unique combination of skills and experience means that there are few, if any, U.S. workers who could provide equivalent value to the national interest.

9.1.2 Urgent National Needs

The United States faces pressing challenges that require immediate attention:

- **Financial System Vulnerabilities**: Ongoing needs for enhanced risk management in systemically important institutions
- **Technological Transformation**: Rapid adoption of AI technologies in finance requiring specialized expertise
- **Workforce Skills Gaps**: Shortage of professionals with combined expertise in finance and advanced AI technologies

Delaying Mr. Joshi's contributions through the lengthy labor certification process would impede progress on these urgent national priorities.

9.1.3 Benefits Beyond a Single Employer

Mr. Joshi's proposed endeavor provides benefits that extend far beyond any single employer:

- **Public Research**: His scholarly publications advance knowledge and best practices that benefit the entire financial sector
- **Open-Source Tools**: Development of accessible tools and frameworks that can be used by regulators and smaller institutions
- **Workforce Development**: Training programs that enhance the skills of U.S. professionals beyond his immediate organization
- **Policy Contributions**: Research and analysis that informs regulatory approaches and policy decisions

These broad benefits would be delayed or potentially lost if Mr. Joshi were required to go through the standard labor certification process, which is designed for positions with specific employers rather than endeavors with national impact.

9.1.4 Impracticality of Labor Certification

The labor certification process is particularly impractical for Mr. Joshi's situation because:

- **No Appropriate SOC Code**: His interdisciplinary role doesn't fit neatly into existing occupational classifications
- **Unique Qualifications**: The specific combination of skills and experience required doesn't align with standard position descriptions
- **National Scope**: His proposed endeavor benefits multiple sectors and extends beyond any single employer's needs

USCIS Policy Manual Guidance. According to the USCIS Policy Manual (Vol. 6, Part F, Chapter 5), the third prong requires a showing that "on balance, it would be beneficial to the United States to waive the requirements of a job offer and labor certification." This involves considering "the national importance of the endeavor, the petitioner's qualifications, and whether the benefit to the U.S. outweighs the inherent national interest in protecting U.S. workers through the labor certification process."[1]

Waiving the job offer requirement is in the **national interest** for the following reasons:

- **Public Benefit:** Mr. Joshi's open-source AI tools and open access can be used by the SEC to detect market manipulation, saving taxpayer resources.[2]

[1] `https://www.uscis.gov/policy-manual/volume-6-part-f-chapter-5`
[2] SEC, *2024 Annual Report on AI in Enforcement* (Feb. 2024)

- **Urgency:** The DHS 2024 Strategic Plan prioritizes "AI for financial infrastructure security," a field where Mr. Joshi is actively researching solutions.[3] **His proposed collaboration and his research on adversarial AI threats is classified in the broader area as a "critical infrastructure priority" under CISA.**[4]
- **Impracticality of PERM:** His role involves **cutting-edge R&D** not captured by standard occupation codes. The DOL confirms "no prevailing wage data exists" for his niche GEN AI Risk Engineering.[5] **A PERM process would delay his ongoing work with the U.S. Treasury's Office of Financial Research.**[6]

Refer to the last section of the expert evaluation from independent experts on how waiving PERM would help US national interest: Dr Malik Exhibit **??**, Dr. Rozeria Exhibit **??** , Dr. Asif Exhibit **??** , Dr. Kamran Exhibit **??** .

9.1.5 National Interest Justification for PERM Waiver

Mr. Joshi's contributions are **critical to U.S. economic stability, risk mitigation, and workforce re-skilling growth**, making the PERM process both impractical and contrary to the national interest:

- **Proposed Economic Stabilization Through AI Innovation:**
  - His risk modeling frameworks plan to propose directly addressed through open source publication the **U.S. Treasury's financial stability AI monitoring programs**, enhancing systemic risk assessment capabilities.
- **Propsed Workforce Development at Scale:**
  - Created **industry-recognized training programs** that can upskill 1000+ U.S. professionals annually, helping US Citizens find AI roles and enhance their career. This will reduce outsourcing jobs to non-citizens abroad.
  - Mr Joshi also plans on partnering with the Department of Veterans Affairs to establish the **"Veterans in Financial AI"** initiative, creating direct pathways to high-value AI careers.
- **Urgent National Security Needs:**
  - Joshi's work helps researchers address the NSA on **adversarial AI threat mitigation** addresses CISA-designated **"critical infrastructure priorities"**.[7]
  - Delaying this work via PERM would jeopardize **DHS's AI security implementation timeline**.[8]
  - His role combines **cutting-edge R&D**, regulatory compliance, and workforce training - a combination **not captured by existing SOC codes**.

[3]DHS, *AI Strategic Plan* (2024)
[4]CISA, *AI Threat Landscape* (2024)
[5]DOL, *Emerging AI Occupations Report* (2024)
[6]U.S. Treasury OFR, *AI Research Partnership Memo* (2024)
[7]CISA, *AI Threat Landscape* (2024)
[8]DHS, *AI Strategic Plan* (2024)

Conclusion: Mr. Joshi's work plans to deliver **immediate, measurable benefits** to U.S. economic stability, workforce capacity, and financial system resilience. Requiring PERM would **unnecessarily delay** these national priorities while providing no protective benefit to U.S. workers, as his expertise is demonstrably unique.

9.1.6 Peer-Reviewed Research Contributions to Policy Research for U.S. National Interest

Mr Joshi's, (the applicant) work in generative AI (GenAI), financial risk management, and workforce development has been peer-reviewed and published in leading international journals and preprints. Below is a synthesis of Mr Joshi's key contributions and their alignment with critical U.S. priorities:

Peer-Reviewed Publications by the Applicant

- **Financial System Resilience:** *"Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System"*[9], the applicant proposes AI-driven frameworks to enhance risk modeling, validated through collaborations with financial analysts. Published in the *International Journal of Innovative Research in Engineering and Management.*
- **AI in Workforce Training:** *"Retraining US Workforce in the Age of Agentic Gen AI"*[10] addresses the AI skills gap through prompt engineering curricula. Published in the *International Journal of Advanced Research in Science, Communication and Technology* (ISSN: 2581-9429) by the applicant.
- **Agentic AI for Financial Stability:** *"Advancing Innovation in Financial Stability: A Review of AI Agent Frameworks"*[11] evaluates architectures like LangGraph and CrewAI for regulatory compliance. Published in the *World Journal of Advanced Engineering Technology and Sciences* by the applicant.
- **Generative AI for Market Resilience:** *"Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets"*[12] demonstrates AI-augmented interest rate modeling using Treasury data. Published in the *International Journal of Computational Science, Information Technology and Control Engineering* (ISSN: 2394-7527) by the applicant.

[9]Satyadhar Joshi, "Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System," International Journal of Innovative Research in Engineering and Management, 2024

[10]Satyadhar Joshi, "Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives," International Journal of Advanced Research in Science, Communication and Technology, 2025

[11]Satyadhar Joshi, "Advancing Innovation and Financial Risk Modeling Through Agentic Generative AI," International Journal of Research and Review, 2025

[12]Satyadhar Joshi, "Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets," The International Journal of Computational Science, Information Technology and Control Engineering, 2025

Alignment with U.S. National Priorities

- **Economic Security:** Applicants research on GenAI for financial risk management[13] directly supports the **U.S. Treasury's** goals for AI-driven financial monitoring[14].
- **Workforce Competitiveness:** Studies on AI upskilling by the applicant[15] align with the **Department of Labor's** initiatives to mitigate job displacement through reskilling.
- **Technological Leadership:** Frameworks for agentic AI published by the applicant[16] and AGI preparedness[17] can be refined and expanded to contribute to the **NIST AI Risk Management Framework** and **DHS AI Strategic Plan**.

Unique Editorial Contributions Strengthening U.S. Economic Stability

Mr. Joshi's unparalleled expertise as a peer reviewer and editorial board member for **18+ international journals** and reviews work exclusively related to Risk pertinent to US Economy and market which directly enhances U.S. financial system resilience through rigorous knowledge validation. His editorial work focuses precisely on domains critical to national economic security:

Specialized Reviewing for Financial Risk Innovation

- **Journal of Risk and Financial Management (ISSN: 1911-8074)**: Evaluated manuscripts on Papers concerning Risk Models for US Banks.
- **FinTech (ISSN: 2674-1032)**: Certified peer reviewer for papers related to Credit Risk and Market Risk Models.

Peer Review Value Proposition

Mr. Joshi combines rare qualifications that make his editorial oversight indispensable. He has been achieved various peer review certifications.

: Peer review certifications from:

- Springer Nature (Fundamentals Modules I/II)

[13]Satyadhar Joshi, "Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System," International Journal of Innovative Research in Engineering and Management, 2024; Satyadhar Joshi, "Review of Gen AI Models for Financial Risk Management," International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 2025

[14]Satyadhar Joshi, "Review of Artificial General Intelligence for Financial Risk Management," Journal of Emerging Technologies and Innovative Research, 2025

[15]Satyadhar Joshi, "Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives," International Journal of Advanced Research in Science, Communication and Technology, 2025; Satyadhar Joshi, "Training US Workforce for Generative AI Models and Prompt Engineering: ChatGPT, Copilot, and Gemini," International Journal of Science, Engineering and Technology, 2025

[16]Satyadhar Joshi, "Advancing Innovation and Financial Risk Modeling Through Agentic Generative AI," International Journal of Research and Review, 2025

[17]Satyadhar Joshi, "Comprehensive Review of Artificial General Intelligence for Financial Risk Management," International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 2025

- Elsevier (Certified Peer Reviewer Course)
- Web of Science (Clarivate Training)

This unique intersection of **academic rigor, regulatory insight, and Wall Street implementation experience** enables Mr. Joshi to advance U.S. financial stability through peer review - a contribution that cannot be replicated through standard labor certification processes.

9.1.7 Open Ebook Publications Supporting Policy and Workforce Innovation

Mr Joshi is the author of two publicly available books on Barnes Noble: *"Agentic Gen AI For Financial Risk Management, ISBN: 2940179992974, Draft2Digital "* and *" Generative AI and Workforce Development in the Finance Sector, ISBN: 2940181548572, Draft2Digital"*, which provide actionable insights at the intersection of artificial intelligence, regulation, and U.S. economic resilience. These books are designed not only for academics but also for decision-makers, educators, and practitioners across sectors.

Their availability on a mainstream platform like Barnes Noble ensures wide accessibility and underscores Mr. Joshi's commitment to public dissemination of research. These works translate advanced research findings into practical strategies, especially for policymakers navigating AI adoption, financial stability, and upskilling challenges in the national workforce.

The books contribute to the national interest in two major ways:

- **Policy Impact:** They provide a framework for applying generative AI in regulatory compliance, risk monitoring, and systemic oversight—aligned with federal priorities such as the NIST AI Risk Framework and DHS infrastructure protection goals.
- **Workforce Development:** The training-focused guidance in these texts supports the goals of the U.S. Department of Labor and CISA's AI workforce initiatives by equipping professionals with accessible, structured pathways to integrate AI into their roles.

For details about the E-books, refer to Exhibit **??**.

As such, these publications strengthen Mr. Joshi's profile as a thought leader whose work is directly advancing both policy frameworks and labor competitiveness in the United States.

Mr Joshi's peer-reviewed publications provide **actionable solutions** to challenges identified by U.S. policymakers, including:

1. AI-augmented financial stability mechanisms,
2. Scalable workforce training protocols,
3. Ethical guidelines for autonomous AI systems.

This body of work underscores Mr Joshi's unique role in advancing U.S. leadership in AI innovation while safeguarding national economic and security interests.

9.1.8 Conclusion

Mr. Joshi's unique expertise in financial AI and his standing as the top 10-15% researcher in this field provides immediate value to U.S. national interests. The PERM process is impractical given his niche specialization (no clear SOC code) and would delay critical work AI financial infrastructure deployments for different organizations. His open-source tools and publications already benefit U.S. researcher working in regulators and financial institutions without labor certification. Waiving the job requirement accelerates these contributions while protecting no comparable U.S. workers. His contributions strengthen U.S. financial infrastructure, align with federal priorities, and justify a waiver of the labor certification requirement. The national interest clearly favors waiver as his work is already being read and used by various professionals working on strengthening US Financial System.

9.2 Conclusion

Mr. Joshi's work meets all *Dhanasar* criteria while directly addressing each USCIS concern:

RFE Deficiency	**Response**
Lack of detailed endeavor	Section 7 depicts the detailed endeavor first prong of the EB-2 NIW criteria. plan with milestones
National importance evidence	Independent Evals on government reports linking applicant's work to US priorities
Letters lacking impact	New LOR and Independent Expert Evaluation letters quantifying effects
Economic effects and impact	Detailed Five years impact analyses Section 7.5

Chapter 10

Conclusion: Comprehensive Response to USCIS Past Denial

This petition has been meticulously prepared to address each concern raised in the August 29, 2025 denial decision (TSCI140TSCI14000035555195) while comprehensively satisfying all three prongs of the *Matter of Dhanasar* framework.

This petition is a new filing that expands upon the prior record with significant additional evidence and clearer articulation of the proposed endeavor. While the earlier decision (dated August 29, 2025) examined Mr. Joshi's specialized employment duties, this petition demonstrates that his proposed endeavor is not tied to his current role but rather to independent research, nonprofit engagement, and nationwide policy contributions. His focus is on creating open-access resources and practical tools that serve community banks, credit unions, and regulatory bodies.

10.1 Direct Response to USCIS Concerns

10.1.1 Response to Prior USCIS Decision

This petition is filed subsequent to the denial of a prior application (IOE0931083103, dated August 29, 2025). The prior decision concluded that the proposed endeavor lacked national importance and that a waiver of the job offer requirement would not benefit the United States.

That decision was based on a review of the record that did not fully address the two-part nature of the proposed endeavor. While the Request for Evidence (RFE) issued on May 28, 2025, was comprehensively addressed in our response of July 7, 2025, the denial decision focused its analysis exclusively on the beneficiary's specialized employment duties as a Quantitative Research Analyst.

The decision did not engage with the significant, independent component of the endeavor dedicated to open-access research, policy development, and the democratization of AI tools for community banks and credit unions, which was thoroughly detailed and supported with evidence in the RFE response.

This renewed petition and its accompanying evidence have been structured to provide

maximum clarity and to ensure a complete evaluation of the beneficiary's entire proposed endeavor under the *Dhanasar* framework, with particular emphasis on the national-level impact of his independent research and policy contributions.

10.1.2 Clarification Regarding Authorship and Evidence Integrity

This petition addresses a critical factual error in the August 29, 2025 denial decision (TSCI140TSCI14000035555195). The decision incorrectly questioned the authorship of submitted publications, suggesting they may be third-party works.

All research publications submitted as evidence are the original work of Mr. Satyadhar Joshi. The consistent authorship across Google Scholar, ORCID, and academic platforms, along with continuous research themes from 2009-present, confirms his sole authorship. These publications represent his direct intellectual contributions, not merely referenced materials.

We request correction of this factual error and proper acknowledgment of Mr. Joshi's peer-reviewed work as evidence of his qualifications.

10.1.3 National Importance and Unique Methodology

The denial questioned whether Mr. Joshi's techniques, methodologies, or methods are "sufficiently unique, innovative, or distinct from similar businesses in the industry." This petition provides compelling evidence that his approach represents a significant advancement through:

- **Comparative Innovation Analysis** (Chapter 5): Detailed comparison showing how Mr. Joshi's GenAI+HPC-driven risk models, AI-driven regulatory automation, and veteran-focused upskilling programs represent substantial improvements over conventional methods, with quantifiable benefits including 30–50% faster stress testing, 15–20% improved predictive accuracy, and 80% reduction in manual compliance tasks.
- **Federal Recognition**: Multiple publications indexed in **Science.gov** (U.S. Department of Energy), citations in Federal Reserve research papers, BLS.gov and integration into academic curricula at U.S. and international universities demonstrate national-level recognition and adoption.
- **Quantifiable Impact Metrics**: 45,345+ research reads, 20,000+ downloads, 804+ ResearchGate citations, and top 10-15% SSRN ranking in AI/Finance category provide objective evidence of field influence.

10.1.4 Potential Prospective Impact Beyond Immediate Role

The denial questioned whether the endeavor would have implications beyond Mr. Joshi's current position or clientele. This petition demonstrates substantial prospective impact through:

- **Detailed Five-Year Impact Projection** (Section 7.5): Specific, measurable targets including training 5,000+ U.S. professionals, $2–5M annual savings per mid-size bank, 75,000+ publication downloads, and adoption by 50+ financial institutions.

- **Workforce Development Initiatives**: The "Veterans in Financial AI" program targeting 500+ veterans annually with 85% placement rate, directly addressing national workforce gaps and supporting DOL and VA priorities.
- **Policy Influence Strategy**: Planned submission of 2–3 commentary letters annually to SEC, CFPB, and FSOC, along with contributions to NIST AI Risk Management Framework and industry standards development.
- **Open-Source Contributions**: Development of accessible tools and frameworks benefiting community banks, credit unions, and regulators beyond Mr. Joshi's immediate employer.

10.1.5 National Benefit of Waiving Labor Certification

The denial found insufficient evidence that waiving the job offer requirement would benefit the United States. This petition demonstrates compelling national interest through:

- **Urgent National Needs**: Alignment with White House Executive Orders on AI, Treasury Department financial stability initiatives, and DHS critical infrastructure security priorities that require immediate attention.
- **Unique Qualifications**: Mr. Joshi's rare combination of advanced quantitative modeling, AI expertise, financial industry experience, and proven impact at systemically important institutions cannot be easily replicated in the U.S. labor market.
- **Broad Benefits Beyond Single Employer**: Public research, open-source tools, workforce development programs, and policy contributions that benefit the entire financial sector and regulatory ecosystem.
- **Impracticality of Labor Certification**: The interdisciplinary nature of Mr. Joshi's role doesn't fit standard occupational classifications, and the PERM process would delay critical work addressing urgent national priorities.

10.2 Satisfaction of Dhanasar Framework

10.2.1 Prong 1: Substantial Merit and National Importance

The evidence conclusively demonstrates that Mr. Joshi's proposed endeavor has both substantial merit and national importance through:

- **Financial System Stability**: Advanced AI risk modeling enhances resilience of systemically important institutions, directly supporting FSOC and Treasury priorities.
- **Technological Innovation**: Cutting-edge applications of generative AI, HPC, and big data technologies advance U.S. leadership in financial AI.
- **Workforce Development**: Specialized training programs address critical skills gaps in AI and finance, particularly for U.S. veterans.
- **Policy Advancement**: Research contributions inform regulatory frameworks and industry standards development.

10.2.2 Prong 2: Well-Positioned to Advance the Endeavor

Mr. Joshi's qualifications uniquely position him to advance the proposed endeavor through:

- **Advanced Expertise**: Rare combination of quantitative modeling, AI implementation, financial risk management, and big data technologies.
- **Proven Track Record**: Demonstrated success at Bank of America, XL Catlin, and Wells Fargo with quantifiable impacts including improved risk model accuracy, reduced errors, and enhanced compliance.
- **Research Leadership**: 70+ publications, 500+ citations, editorial roles, and peer review contributions establishing thought leadership.
- **Industry Recognition**: Awards, certifications, and endorsements from senior professionals confirming expertise and impact.

10.2.3 Prong 3: National Benefit of Waiving Requirements

Waiving the job offer and labor certification requirements would substantially benefit the United States by:

- **Accelerating Critical Contributions**: Avoiding delays in addressing urgent financial stability, AI innovation, and workforce development priorities.
- **Enabling Broad Impact**: Allowing Mr. Joshi to continue research, open-source development, and training initiatives that benefit the entire financial ecosystem beyond any single employer.
- **Addressing Unique Needs**: Recognizing that Mr. Joshi's interdisciplinary role doesn't fit standard occupational classifications and that his unique expertise provides value that cannot be replicated through the conventional labor market.

10.3 Conclusion

This petition provides comprehensive evidence addressing each concern raised in the denial decision while demonstrating that Mr. Satyadhar Joshi satisfies all regulatory criteria for EB-2 classification and meets the three-prong test established in *Matter of Dhanasar*. His work enhancing the resilience of the U.S. financial system through advanced AI and big data technologies addresses matters of substantial merit and national importance. His unique qualifications and proven track record demonstrate that he is well-positioned to advance his proposed endeavor. Finally, the significant benefits his work provides to the United States outweigh the national interest in protecting U.S. workers through the labor certification process.

We respectfully request that USCIS approve this petition, recognizing that Mr. Joshi's contributions to financial stability, technological innovation, and workforce development provide clear and substantial benefits to the national interest of the United States.

Chapter 11

Exhibits Documentation

This chapter provides a comprehensive overview of all exhibits submitted with this petition. Each exhibit serves to substantiate Mr. Satyadhar Joshi's qualifications, scholarly contributions, and the national importance of his proposed endeavor under the *Matter of Dhanasar* framework.

Professional Qualifications and Background

Exhibit ??: Professional Resume demonstrates Mr. Joshi's extensive professional experience spanning over 10 years in quantitative analysis, AI applications in finance, and risk management at leading financial institutions including Bank of America. This exhibit establishes his professional credentials and industry expertise.

Exhibit ??: Authored Books includes two open-access books on Generative AI applications in workforce development and financial services, showcasing Mr. Joshi's ability to synthesize complex technical concepts for practical industry applications.

Scholarly Publications and Research Impact

Exhibit ??: Peer-Reviewed Journal Publications contains Mr. Joshi's research papers focused on enhancing U.S. financial market stability through AI applications. These publications demonstrate his original contributions to the field and establish his expertise in financial risk management.

Exhibit ??: Government-Indexed Research includes publications indexed in Science.gov, indicating recognition by U.S. federal agencies and validating the national importance of his research in defense and security applications.

External Recognition and Media Coverage

Exhibit ??: Impacto TIC Feature demonstrates international recognition of Mr. Joshi's work on AI risks in business, published in a respected Spanish-language technology publication reaching professional audiences across Latin America.

Exhibit ??: Reboot Society Podcast showcases Mr. Joshi's thought leadership in AI and leadership development, featured in discussions about essential skills for technology leaders in the AI era.

Exhibit ??: LLRX.com Publication highlights Mr. Joshi's contributions to legal and technology research communities through publication in a well-established web journal serving legal professionals and researchers.

Academic Repository Inclusion

Exhibit ??: Zuyd University LibGuides demonstrates the integration of Mr. Joshi's work into academic curricula at European universities, indicating international academic recognition and educational impact.

Exhibit ??: Harrisburg University Digital Commons shows inclusion in institutional research repositories, validating the scholarly merit and accessibility of his research to academic communities.

Government Agency Recognition

Exhibit ??: Federal Reserve Board Citation provides evidence of Mr. Joshi's research being cited in official Federal Reserve publications, demonstrating direct impact on U.S. financial policy research and regulatory considerations.

Exhibit ??: Bureau of Labor Statistics Recognition shows Mr. Joshi's work informing U.S. government workforce development policies, with backend metadata confirming his contributions to BLS research on AI and employment.

International Indexing and Scholarly Validation

Exhibit ??: Index Copernicus Recognition demonstrates international scholarly validation through inclusion in a European journal indexing system that evaluates publication quality and research impact.

Exhibit ??: Econ Papers Indexing shows inclusion in economics research databases, indicating recognition within the economics research community.

Exhibit ??: Research Commons, a supplementary database in Web of Science, which increases visibility but is not equivalent to core indexing demonstrates global research visibility through inclusion in a premier academic discovery platform used by researchers worldwide.

Exhibit ??: SSRN Repository shows early dissemination of research through a leading social science research network, indicating engagement with academic communities prior to formal publication.

Exhibit ??: ResearchGate Profile provides evidence of professional networking and research sharing within global academic communities, with demonstrated readership and citation metrics.

Exhibit ??: Semantic Scholar Indexing shows inclusion in AI-focused academic search engines developed by leading research institutions, validating relevance to AI research communities.

Peer Review Contributions

Exhibit ??: Peer Review Activities documents Mr. Joshi's contributions to scholarly validation through peer review work recorded in Web of Science and ORCID, demonstrating recognition by academic publishing communities.

Expert Testimonials

Exhibit ??: Industry Testimonial from Mr. Ankit Gupta provides independent validation of Mr. Joshi's technical expertise and professional impact from industry colleagues.

Exhibit ??: Industry Testimonial from Mr. Gaurav Sharma offers additional professional endorsement from senior industry professionals, corroborating Mr. Joshi's qualifications and contributions.

Educational Credentials

Exhibit ??: Academic Degrees and Evaluations provides official documentation of Mr. Joshi's advanced degrees and educational qualifications meeting EB-2 requirements.

Volunteering Free Online course for US Veterans

Exhibit ??: Udmey Courses by Mr Joshi.

Independent Expert Opinions

Exhibit ??: Expert Opinion by Dr. Anjum provides an independent assessment from an international expert validating the technical merit and innovation of Mr. Joshi's research in AI applications for financial systems.

Exhibit ??: Expert Opinion by Dr. Asif Umer offers scholarly validation from Hazara University faculty, confirming the academic significance and research contributions of Mr. Joshi's work in AI and financial technology.

Exhibit ??: Expert Opinion by Dr. Malik Missan provides professional endorsement from University of Bhawalpur academia, substantiating the originality and impact of Mr. Joshi's research methodologies and findings.

Exhibit ??: Expert Opinion by Dr. Rozeia Mustafa delivers independent academic assessment from Royal College of Management Sciences, affirming the quality and relevance of Mr. Joshi's contributions to AI research and applications.

Exhibit ??: Expert Opinion by Dr. Sheraz Ahmed offers validation from International College of Management Sciences faculty, confirming the practical significance and scholarly merit of Mr. Joshi's work in AI implementation.

Exhibit ??: Expert Opinion by Dr. Kamran Toor provides comprehensive independent review from Meridian School senior faculty, including affidavit documentation verifying the authenticity and significance of Mr. Joshi's research contributions.

These independent expert opinions collectively demonstrate international academic recognition and validation of Mr. Joshi's research quality, innovation, and impact from multiple educational institutions and countries, further substantiating the substantial merit and national importance of his proposed endeavor.

Organic Unsolicited External Recognition and Peer Endorsement

Exhibit ?? The widespread recognition and practical impact of Mr. Joshi's research extend beyond citations and downloads to include direct endorsements from industry professionals and researchers, demonstrating its relevance and value to practicing experts in the field.

ResearchGate Peer Recommendations provide quantifiable evidence of his work's influence within the professional community. His publications have been personally recommended by a diverse international group of experts, including:

- **Rachid Ejjami** (Doctor of Business Administration, École nationale des ponts et chaussées), who recommended the paper on "Gen AI in Fixed Income Markets."
- **Ashok Gadi Parthi** (Senior Data Architect, Verizon Communications AI&D), who endorsed the review of "Owen and DeepSeek LLMs."
- **Shafeeq Ur Rahaman** (Associate Director of Analytics, Monks), who recommended the research on "Gen AI Models for Financial Risk Management."

These unsolicited recommendations from professionals at leading institutions corroborate the substantive merit and practical applicability of his research.

Furthermore, **Unsolicited Professional Acclaim on LinkedIn** demonstrates the direct engagement and value his work provides to high-level practitioners:

- **Yongfeng (Emma) Wei**, Lead Machine Learning Engineer at PayPal, described Mr. Joshi's ebook on "Gen AI for Market and Credit Risk" as "very impressive" and initiated a professional connection based on its content.
- **Sumin Lee**, Data Scientist at SAP and PhD candidate at KAIST, found his paper on "Agentic Generative AI and the Future U.S. Workforce" to be "truly insightful and fascinating," leading to a professional connection.

This organic recognition from peers at globally recognized companies like **PayPal** and **SAP** underscores the significant standing and influence of his work within the industry it aims to benefit.

In applied fields such as AI and industry, formal academic citations are less common, as professionals disseminate and recognize research through professional networks and knowledge-sharing platforms. Mr. Joshi's work has been independently shared, discussed, and praised by industry consultants and standards experts, reflecting equivalent recognition in the professional community. These independent engagements function in practice as citations do in academia, by demonstrating that his research informs and influences other experts' work.

Conclusion

Collectively, these exhibits provide comprehensive evidence supporting all three prongs of the *Dhanasar* framework. They demonstrate Mr. Joshi's substantial scholarly contributions, the national importance of his proposed endeavor, his unique qualifications to advance this work, and the clear national benefit of waiving labor certification requirements. Each exhibit has been carefully selected to address specific USCIS criteria and provide verifiable, objective evidence of Mr. Joshi's eligibility for the National Interest Waiver.