

EB2 National Interest Waiver (NIW) Application

Satyadhar Joshi

November 6, 2025

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Chapter 1

Form I-907: Request for Premium Processing Service



Request for Premium Processing Service
CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE
Department of Homeland Security
U.S. Citizenship and Immigration Services

USCIS
Form I-907
OMB No. 1615-0048
Expires 02/28/2027

For USCIS Use Only	Request Physically Received by USCIS <hr/> Date <hr/> Date	Returned <hr/> Date <hr/> Date	Resubmitted <hr/> Date <hr/> Date	Receipt
				Action Block
	Remarks			

To be completed by an attorney or accredited representative (if any).	<input type="checkbox"/> Select this box if Form G-28 or Form G-28I is attached.	Attorney State Bar Number (if applicable) <input type="text"/>	Attorney or Accredited Representative USCIS Online Account Number (if any) 040405631848
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► START HERE - Type or print in black ink.

Part 1. Information About the Person Filing This Request

1. Alien Registration Number (A-Number) (if any)	2. USCIS Online Account Number (if any)			
► A- <input type="text" value="1 3 1 3 8 1 6 5 2"/>	► <input type="text"/>			
3. Family Name (Last Name)	Given Name (First Name)	Middle Name		
<input type="text" value="Joshi"/>	<input type="text" value="Satyadhar"/>	<input type="text"/>		
4. Company or Organization Named in the Related Case (If filed on behalf of a company or organization)	<input type="text"/>			
5. Mailing Address				
In Care Of Name				
<input type="text" value="Satyadhar Joshi"/>				
Street Number and Name	Apt.	Ste.	Flr.	Number
<input type="text" value="613 Washington Blvd."/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="1007"/>
City or Town	State	ZIP Code USPS ZIP Code Lookup		
<input type="text" value="Jersey City"/>	<input type="text" value="NJ"/>	<input type="text" value="07310"/>		
Province	Postal Code	Country		
<input type="text"/>	<input type="text"/>	<input type="text"/>		

6. Is your current mailing address the same as your physical address? Yes No

If you answered "No" to Item Number 6., provide your physical address in Item Number 7.



CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE

Part 1. Information About the Person Filing This Request (continued)

7. Physical Address

Street Number and Name

775 Newark Ave

Apt. Ste. Flr. Number

4

City or Town

Jersey City

State

NJ

ZIP Code

07306

Province

Postal Code

Country

8. Request for Premium Processing Service (select **only one box):**

- I am the **petitioner** who is filing or has filed a petition eligible for Premium Processing Service.
- I am the attorney or accredited representative **for the petitioner** who is filing or has filed a petition eligible for Premium Processing Service. (Complete and submit Form G-28, Notice of Entry of Appearance as Attorney or Accredited Representative, or Form G-28I, Notice of Entry of Appearance as Attorney In Matters Outside the Geographical Confines of the United States, if Form G-28 or Form G-28I has not been submitted with the petition.)
- I am the **applicant** who is filing or has filed an application eligible for Premium Processing Service.
- I am the attorney or accredited representative **for the applicant** who is filing or has filed an application eligible for Premium Processing Service. (Complete and submit Form G-28 or Form G-28I, if Form G-28 or Form G-28I has not been submitted with the application.)

Part 2. Information About the Request

1. Form Number of Related Petition or Application

I-140

2. Receipt Number of Related Petition or Application

3. Classification or Eligibility Requested

E21

4. Petitioner or Applicant in the Related Case

Family Name (Last Name)

Joshi

Given Name (First Name)

Satyadhar

Middle Name

5. Beneficiary in the Related Case

Family Name (Last Name)

Joshi

Given Name (First Name)

Satyadhar

Middle Name

6. Name of Point of Contact for the Company or Organization

Family Name (Last Name)

Given Name (First Name)

Middle Name

Position Title

7. Company or Organization IRS Employer Identification Number (EIN) (if any)



CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE

Part 2. Information About the Request (continued)

8. Address of Petitioner, Applicant, Company, or Organization Named in Related Case

Street Number and Name

775 Newark Ave

Apt. Ste. Flr. Number

4

City or Town

Jersey City

State

NJ

ZIP Code

Province

Postal Code

Country

[Redacted]

[Redacted]

[Redacted]

Part 3. Requestor's Statement, Contact Information, Declaration, Certification, and Signature

NOTE: Read the **Penalties** section of the Form I-907 Instructions before completing this section.

I understand that U.S. Citizenship and Immigration Services (USCIS) will refund the Premium Processing Service fee to the person listed in **Part 1.** of this request if USCIS does not take an action on the related case within the applicable processing timeframe. I understand that case actions include a referral for investigation of suspected fraud, misrepresentation, or the issuance of an approval notice, a request for evidence, a notice of intent to deny, or a denial notice.

Requestor's Statement

NOTE: Select the box for either **Item A.** or **Item B.** in **Item Number 1.** If applicable, select the box for **Item Number 2.**

1. Requestor's Statement Regarding the Interpreter

- A. I can read and understand English, and I have read and understand every question and instruction on this request and my answer to every question.
- B. The interpreter named in **Part 4.** read to me every question and instruction on this request and my answer to every question in [Redacted], a language in which I am fluent, and I understood everything.

2. Requestor's Statement Regarding the Preparer

- At my request, the preparer named in **Part 5.**, [Redacted], prepared this request for me based only upon information I provided or authorized.

Requestor's Contact Information

3. Requestor's Daytime Telephone Number

+1 929 356 5046

4. Requestor's Mobile Telephone Number (if any)

[Redacted]

5. Requestor's Fax Number (if any)

[Redacted]

6. Requestor's Email Address (if any)

Satyadhar.Joshi@gmail.com

Requestor's Declaration and Certification

Copies of any documents I have submitted are exact photocopies of unaltered, original documents, and I understand that USCIS may require that I submit original documents to USCIS at a later date. Furthermore, I authorize the release of any information from any and all of my records that USCIS may need to determine my eligibility for the immigration benefit that I seek.

I furthermore authorize release of information contained in this request, in supporting documents, and in my USCIS records, to other entities and persons where necessary for the administration and enforcement of U.S. immigration law.



CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE

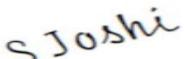
Part 3. Requestor's Statement, Contact Information, Declaration, Certification, and Signature

(continued)

I certify, under penalty of perjury, that all of the information in my request and any document submitted with it were provided or authorized by me, that I reviewed and understand all of the information contained in, and submitted with, my request and that all of this information is complete, true, and correct.

Requestor's Signature

7. Requestor's Signature

 _____

Date of Signature (mm/dd/yyyy)

09/24/2025

NOTE TO ALL REQUESTORS: If you do not completely fill out this request or fail to submit required documents listed in the Instructions, USCIS may deny your request.

Part 4. Interpreter's Contact Information, Certification, and Signature

Provide the following information about the interpreter.

Interpreter's Full Name

1. Interpreter's Family Name (Last Name)

Interpreter's Given Name (First Name)

2. Interpreter's Business or Organization Name (if any)

Interpreter's Mailing Address

3. Street Number and Name

Apt. Ste. Flr. Number

State _____ ZIP Code _____

City or Town _____

Province _____ Postal Code _____ Country _____

Interpreter's Contact Information

4. Interpreter's Daytime Telephone Number

5. Interpreter's Mobile Telephone Number (if any)

6. Interpreter's Email Address (if any)

Interpreter's Certification

I certify, under penalty of perjury, that:

I am fluent in English and _____, which is the same language specified in **Part 3.**,

Item B. in **Item Number 1.**, and I have read to this requestor in the identified language every question and instruction on this request and his or her answer to every question. The requestor informed me that he or she understands every instruction, question, and answer on the request, including the **Requestor's Declaration and Certification**, and has verified the accuracy of every answer.



CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE

Part 4. Interpreter's Contact Information, Certification, and Signature (continued)

Interpreter's Signature

7. Interpreter's Signature	Date of Signature (mm/dd/yyyy)
----------------------------	--------------------------------

Part 5. Contact Information, Declaration, and Signature of the Person Preparing this Request, if Other Than the Requestor

Provide the following information about the preparer.

Preparer's Full Name

1. Preparer's Family Name (Last Name)	Preparer's Given Name (First Name)
2. Preparer's Business or Organization Name (if any)	

Preparer's Mailing Address

3. Street Number and Name	Apt. <input type="checkbox"/>	Ste. <input type="checkbox"/>	Flr. <input type="checkbox"/>	Number <input type="text"/>
City or Town <input type="text"/>	State <input type="text"/>	ZIP Code <input type="text"/>		
Province <input type="text"/>	Postal Code <input type="text"/>	Country <input type="text"/>		

Preparer's Contact Information

4. Preparer's Daytime Telephone Number <input type="text"/>	5. Preparer's Mobile Telephone Number (if any) <input type="text"/>
6. Preparer's Email Address (if any) <input type="text"/>	

Preparer's Statement

- 7.A. I am not an attorney or accredited representative but have prepared this request on behalf of the requestor with the requestor's consent.
- B. I am an attorney or accredited representative and my representation of the requestor in this case
 extends does not extend beyond the preparation of this request.

NOTE: If you are an attorney or accredited representative, you may need to submit a completed Form G-28 or Form G-28I with this request.



CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE

Part 5. Contact Information, Declaration, and Signature of the Person Preparing this Request, if Other Than the Requestor (continued)

Preparer's Certification

By my signature, I certify, under penalty of perjury, that I prepared this request at the request of the requestor. The requestor then reviewed this completed request and informed me that he or she understands all of the information contained in, and submitted with, his or her request, including the **Requestor's Declaration and Certification**, and that all of this information is complete, true, and correct. I completed this request based only on information that the requestor provided to me or authorized me to obtain or use.

Preparer's Signature

8. Preparer's Signature Date of Signature (mm/dd/yyyy)



CHAPTER 1. FORM I-907: REQUEST FOR PREMIUM PROCESSING SERVICE

Part 6. Additional Information

If you need extra space to provide any additional information within this petition, use the space below. If you need more space than what is provided, you may make copies of this page to complete and file with this petition or attach a separate sheet of paper. Type or print your name and A-Number (if any) at the top of each sheet; indicate the **Page Number**, **Part Number**, and **Item Number** to which your answer refers; and sign and date each sheet.

1. Family Name (Last Name) Given Name (First Name) Middle Name

2. A-Number (if any) ► A-

3.A. Page Number 3.B. Part Number 3.C. Item Number

3.D.

4.A. Page Number 4.B. Part Number 4.C. Item Number

4.D.

5.A. Page Number 5.B. Part Number 5.C. Item Number

5.D.



Chapter 2

Form I-140: Immigrant Petition for Alien Workers



Immigrant Petition for Alien Workers
CHAPTER 2. FORM I-140: IMMIGRANT PETITION FOR ALIEN WORKERS
Department of Homeland Security
U.S. Citizenship and Immigration Services

USCIS
Form I-140

OMB No. 1615-0015
 Expires 02/28/2027

For USCIS Use Only	Fee Stamp	Priority Date	Consulate	Action Block
Classification <input type="checkbox"/> 203(b)(1)(A) Alien of Extraordinary Ability <input type="checkbox"/> 203(b)(1)(B) Outstanding Professor or Researcher <input type="checkbox"/> 203(b)(1)(C) Multinational Executive or Manager		<input checked="" type="checkbox"/> 203(b)(2) Member of Professions with Advanced Degree/Exceptional Ability <input type="checkbox"/> 203(b)(3)(A)(i) Skilled Worker <input type="checkbox"/> 203(b)(3)(A)(ii) Professional <input type="checkbox"/> 203(b)(3)(A)(iii) Other Worker		Certification <input checked="" type="checkbox"/> National Interest Waiver (NIW) <input type="checkbox"/> Schedule A, Group I <input type="checkbox"/> Schedule A, Group II
				Remarks
To be completed by an Attorney or Accredited Representative (if any).		<input type="checkbox"/> Select this box if Form G-28 or Form G-28I is attached.		Attorney State Bar Number (if applicable) <input type="text"/>
				Attorney or Accredited Representative USCIS Online Account Number (if any) <input type="text"/>

► START HERE - Type or print in black ink.

Part 1. Information About the Person or Organization Filing This Petition

If an individual is filing this petition, answer **Item Numbers**

1.a. - 1.c. If a company or organization is filing this petition, answer **Item Number 2.**

1.a. Family Name (Last Name)

1.b. Given Name (First Name)

1.c. Middle Name

2. Company or Organization Name

Mailing Address

([USCIS ZIP Code Lookup](#))

3.a. In Care Of Name

3.b. Street Number and Name

3.c. Apt. Ste. Flr.

3.d. City or Town

3.e. State **3.f.** ZIP Code

3.g. Province

3.h. Postal Code

3.i. Country

Other Information

4. IRS Employer Identification Number (EIN)
 ►

5. Are you a nonprofit organized as tax exempt or a governmental research organization? Yes No

6. Do you currently employ a total of 25 or fewer full-time equivalent employees in the United States, including all affiliates or subsidiaries of this company/organization? Yes No

7. U.S. Social Security Number (SSN) (if any)
 ►

8. USCIS Online Account Number (if any)
 ►

Part 2. Petition Type

This petition is being filed for (select **only one** box):

- 1.a.** An alien of extraordinary ability.
- 1.b.** An outstanding professor or researcher.
- 1.c.** A multinational executive or manager.
- 1.d.** A member of the professions holding an advanced degree or an alien of exceptional ability (who is **NOT** seeking a National Interest Waiver (NIW)).
- 1.e.** A professional (at a minimum, possessing a bachelor's degree or a foreign degree equivalent to a U.S. bachelor's degree).



CHAPTER 2. FORM I-140: IMMIGRANT PETITION FOR ALIEN WORKERS

Part 2. Petition Type (continued)

- 1.f. A skilled worker (requiring at least two years of specialized training or experience).
- 1.g. Any other worker (requiring less than two years of training or experience).
- 1.h. An alien applying for an NIW (who IS a member of the professions holding an advanced degree or an alien of exceptional ability).

This petition is being filed (select **only one** box):

- 2.a. To amend a previously filed petition.

Previous Petition Receipt Number

►

- 2.b. For the Schedule A, Group I or II designation.

Part 3. Information About the Person for Whom You Are Filing

1.a. Family Name (Last Name) **Joshi**

1.b. Given Name (First Name) **Satyadhar**

1.c. Middle Name

Mailing Address

2.a. In Care Of Name

Satyadhar Joshi

2.b. Street Number and Name **775 Newark Ave**

2.c. Apt. Ste. Flr. **4**

2.d. City or Town **Jersey City**

2.e. State **NJ** 2.f. ZIP Code **07306**

2.g. Province

2.h. Postal Code

2.i. Country

USA

Other Information

3. Date of Birth (mm/dd/yyyy) **05/04/1987**

4. City/Town/Village of Birth

UJJAIN

5. State or Province of Birth

MADHYA PRADESH

6. Country of Birth

INDIA

7. Country of Citizenship or Nationality

INDIA

8. Alien Registration Number (A-Number) (if any)

► A- **1 3 1 3 8 1 6 5 2**

9. U.S. SSN (if any)

► **7 6 8 9 4 1 9 3 2**

Information About His or Her Last Arrival in the United States

If the person for whom you are filing is in the United States, provide the following information.

10. Date of Last Arrival (mm/dd/yyyy) **01/18/2017**

11.a. Form I-94 Arrival-Departure Record Number

► **2 1 4 4 5 3 6 4 5 8 5**

11.b. Expiration Date of Authorized Stay Shown on Form I-94 (mm/dd/yyyy) **08/19/2026**

11.c. Status on Form I-94 (for example, class of admission, or paroled, if paroled)

H1B

12. Passport Number

T8219905

13. Travel Document Number

14. Country of Issuance for Passport or Travel Document

INDIA

15. Expiration Date for Passport or Travel Document (mm/dd/yyyy) **11/14/2029**

Part 4. Processing Information

Provide the following information for the person named in Part 3. (select **only one** box):

1.a. Alien will apply for a visa abroad at a U.S. Embassy or U.S. Consulate at:

1.b. City or Town

1.c. Country

2.a. Alien is in the United States and will apply for adjustment of status to that of lawful permanent resident.



CHAPTER 2. FORM I-140: IMMIGRANT PETITION FOR ALIEN WORKERS

Part 4. Processing Information (continued)

- 2.b. Alien's current country of residence or, if now in the United States, last country of permanent residence abroad.

INDIA

If you provided a United States address in **Part 3.**, provide the person's foreign address in **Item Numbers 3.a. - 3.f.**:

3.a. Street Number and Name **3 31 Doorsanchar Colony**

3.b. Apt. Ste. Flr.

3.c. City or Town **INDORE**

3.d. Province **MADHYA PRADESH**

3.e. Postal Code **452014**

3.f. Country

INDIA

If the person's native alphabet is other than Roman letters, type or print the person's foreign name and address in the native alphabet in **Item Numbers 4.a. - 4.c.**:

4.a. Family Name (Last Name)

4.b. Given Name (First Name)

4.c. Middle Name

Mailing Address

5.a. In Care Of Name

Satyadhar Joshi

5.b. Street Number and Name **775 Newark Ave**

5.c. Apt. Ste. Flr. **4**

5.d. City or Town **Jersey City**

5.e. Province **NJ**

5.f. Postal Code **07306**

5.g. Country

USA

If you answer "Yes" to **Item Numbers 6.a. - 10.**, provide the case number, office location, date of decision, and disposition of the decision in the space provided in **Part 11. Additional Information**.

- 6.a. Are you filing any other petitions or applications with this Form I-140? Yes No

- 6.b. If you answered "Yes" to **Item Number 6.a.**, select all applicable boxes:

Form I-485

Form I-131

Form I-765

Other (Provide an explanation in **Part 11. Additional Information**.)

7. Is the person for whom you are filing in removal proceedings? Yes No

8. Has any immigrant visa petition ever been filed by or on behalf of this person? Yes No

9. Are you filing this petition without an original labor certification because the original labor certification was previously submitted in support of another Form I-140? Yes No

10. If you are filing this petition without an original labor certification, are you requesting that U.S. Citizenship and Immigration Services (USCIS) request a duplicate labor certification from the Department of Labor (DOL)? Yes No

Part 5. Additional Information About the Petitioner

Type of petitioner (select **only one** box):

1.a. Employer

1.b. Self

1.c. Other (For example, Lawful Permanent Resident, U.S. citizen or any other person filing on behalf of the alien)

If a company or an organization is filing this petition, provide the following information:

2. Type of Business

3. Date Established (mm/dd/yyyy)

4. Current Number of U.S. Employees

5. Gross Annual Income \$

6. Net Annual Income \$

7. NAICS Code ►

8. Labor Certification DOL Case Number



CHAPTER 2. FORM I-140: IMMIGRANT PETITION FOR ALIEN WORKERS

Part 5. Additional Information About the Petitioner (continued)

9. Labor Certification DOL Filing Date (mm/dd/yyyy)

10. Labor Certification Expiration Date (mm/dd/yyyy)

If an individual is filing this petition, provide the following information.

11. Occupation
 Assistant Vice President Quant Analyst at BoFA

12. Annual Income \$ \$145,000

Part 6. Basic Information About the Proposed Employment

1. Job Title
 Lead Research Scientist – Agentic Gen AI and Policy

2. SOC Code ► 15 - 1 2 2 1

3. Nontechnical Job Description

Develop and apply Agentic Gen AI techniques to enhance risk models, decision-making frameworks, across multiple sectors, including defense, healthcare, education, and financial systems.

4. Is this a full-time position? Yes No

5. If the answer to Item Number 4. is "No," how many hours per week for the position?

6. Is this a permanent position? Yes No

7. Is this a new position? Yes No

8. Wages (Specify hour, week, month, or year):

\$ per

Worksite Location

For Item Numbers 9.a. - 9.e., provide the address where the person will work if different from the address provided in Part 1.

9.a. Street Number and Name

9.b. Apt. Ste. Flr.

9.c. City or Town

9.d. State 9.e. ZIP Code

Part 7. Information About the Spouse and All Children of the Person for Whom You Are Filing

For Part 7., provide information on the spouse and all children related to the individual for whom you are filing this petition. Also, note if the individual will apply for a visa abroad or adjustment of status as the dependent of the individual for whom the petition is filed. If you need extra space to provide information about additional family members, use the space provided in Part 11. Additional Information.

Person 1

1.a. Family Name (Last Name)

1.b. Given Name (First Name)

1.c. Middle Name

2. Date of Birth (mm/dd/yyyy)

3. Country of Birth

4. Relationship

5. Is he or she applying for adjustment of status? Yes No

6. Is he or she applying for a visa abroad? Yes No

Person 2

7.a. Family Name (Last Name)

7.b. Given Name (First Name)

7.c. Middle Name

8. Date of Birth (mm/dd/yyyy)

9. Country of Birth

10. Relationship

11. Is he or she applying for adjustment of status? Yes No

12. Is he or she applying for a visa abroad? Yes No



CHAPTER 2. FORM I-140: IMMIGRANT PETITION FOR ALIEN WORKERS

**Part 7. Information About Spouse and All
Children of the Person for Whom You Are Filing**
(continued)

Person 3

13.a. Family Name (Last Name)

13.b. Given Name (First Name)

13.c. Middle Name

14. Date of Birth (mm/dd/yyyy)

15. Country of Birth

16. Relationship

17. Is he or she applying for adjustment of status? Yes No

18. Is he or she applying for a visa abroad? Yes No

Person 4

19.a. Family Name (Last Name)

19.b. Given Name (First Name)

19.c. Middle Name

20. Date of Birth (mm/dd/yyyy)

21. Country of Birth

22. Relationship

23. Is he or she applying for adjustment of status? Yes No

24. Is he or she applying for a visa abroad? Yes No

Person 5

25.a. Family Name (Last Name)

25.b. Given Name (First Name)

25.c. Middle Name

26. Date of Birth (mm/dd/yyyy)

27. Country of Birth

28. Relationship

29. Is he or she applying for adjustment of status? Yes No

30. Is he or she applying for a visa abroad? Yes No

Person 6

31.a. Family Name (Last Name)

31.b. Given Name (First Name)

31.c. Middle Name

32. Date of Birth (mm/dd/yyyy)

33. Country of Birth

34. Relationship

35. Is he or she applying for adjustment of status? Yes No

36. Is he or she applying for a visa abroad? Yes No



Part 8. Contact Information, Certification, and Signature of the Petitioner or Authorized Signatory

Petitioner or Authorized Signatory's Contact Information

- 1.a. Petitioner's or Authorized Signatory's Family Name (Last Name)

Joshi

- 1.b. Petitioner's or Authorized Signatory's Given Name (First Name)

Satyadhar

2. Petitioner's or Authorized Signatory's Title

3. Petitioner's or Authorized Signatory's Daytime Telephone Number

+1 929 356 5046

4. Petitioner's or Authorized Signatory's Mobile Telephone Number (if any)

5. Petitioner's or Authorized Signatory's Email Address (if any)

Satyadhar.Joshi@gmail.com

Petitioner's or Authorized Signatory's Certification and Signature

If filing this petition on behalf of an organization, I certify that I am authorized to do so by the organization:

- a. I reviewed and provided or authorized all of the responses and information in my petition;
- b. I understood all of the responses and information contained in, and submitted with, my petition; and
- c. All of the responses and information were complete, true, and correct at the time of filing

Furthermore, I authorize the release of any information from any and all of my records as authorized signatory and the petitioner's records that USCIS may need to determine the petitioner's eligibility for an immigration request and to other entities and persons where necessary for the administration and enforcement of U.S. immigration law.

- 6.a. Petitioner's or Authorized Signatory's Signature

- 6.b. Date of Signature (mm/dd/yyyy)

09/24/2025

Part 9. Interpreter's Contact Information, Certification, and Signature

Interpreter's Full Name

- 1.a. Interpreter's Family Name (Last Name)

- 1.b. Interpreter's Given Name (First Name)

2. Interpreter's Business or Organization Name

Interpreter's Contact Information

3. Interpreter's Daytime Telephone Number

4. Interpreter's Mobile Telephone Number (if any)

5. Interpreter's Email Address (if any)

Interpreter's Certification and Signature

I certify, under penalty of perjury, that I am fluent in English

and ,

and I have interpreted every question on the petition and Instructions and interpreted the petitioner's or authorized signatory's answers to the questions in that language, and the petitioner or authorized signatory informed me that they understood every instruction, question, and answer on the petition.

- 6.a. Interpreter's Signature

- 6.b. Date of Signature (mm/dd/yyyy)



**Part 10. Contact Information, Certification, and
Signature of the Person Preparing this Petition, if
Other Than the Petitioner or Authorized
Signatory**

Preparer's Full Name

1. Preparer's Family Name (Last Name)

Preparer's Given Name (First Name)

2. Preparer's Business or Organization Name

Preparer's Contact Information

3. Preparer's Daytime Telephone Number

4. Preparer's Mobile Telephone Number (if any)

5. Preparer's Email Address (if any)

Preparer's Certification and Signature

I certify, under penalty of perjury, that I prepared this petition for the petitioner or authorized signatory at their request and with express consent and that all of the responses and information contained in and submitted with the petition are complete, true, and correct and reflects only information provided by the petitioner or authorized signatory. The petitioner or authorized signatory reviewed the responses and information and informed me that they understand the responses and information in or submitted with the petition.

6. Preparer's Signature

Date of Signature (mm/dd/yyyy)



CHAPTER 2. FORM I-140: IMMIGRANT PETITION FOR ALIEN WORKERS

Part 11. Additional Information

If you need extra space to provide any additional information within this petition, use the space below. If you need more space than what is provided, you may make copies of this page to complete and file with this petition or attach a separate sheet of paper. Type or print your name and A-Number (if any) at the top of each sheet; indicate the **Page Number**, **Part Number**, and **Item Number** to which your answer refers; and sign and date each sheet.

1. Family Name

(Last Name)

Given Name

(First Name)

Middle Name

2. IRS EIN ►

3. Page Number Part Number Item Number

5. Page Number Part Number Item Number

4. Page Number Part Number Item Number

6. Page Number Part Number Item Number



Chapter 3

**Form G-1450: USCIS Payment
Receipt (Credit Card Authorization)**



Authorization for Credit Card Transactions
CHAPTER 3. FORM G-1450: USCIS PAYMENT RECEIPT (CREDIT CARD)
Department of Homeland Security **USCIS**
U.S. Citizenship and Immigration Services **Form G-1450**
AUTHORIZATION

How To Fill Out Form G-1450

1. Type or print legibly in black ink.
2. Complete the "Applicant's/Petitioner's/Requester's Information," "Credit Card Billing Information," and "Credit Card Information" sections and sign the authorization. **NOTE:** The credit card must be issued by a U.S. bank.
3. Place your Form G-1450 ON TOP of your application, petition, or request package.

NOTE: Failure to provide the requested information may result in USCIS and your financial institution not accepting the payment. USCIS cannot process credit card payments without an authorized signature.

NOTE: Please see the USCIS Form G-1450 website for additional information.

We recommend that you print or save a copy of your completed Form G-1450 to review in the future and for your records.

By completing this transaction, you agree that you have paid for a government service and that the filing fee, biometric services fee and all related financial transactions are final and not refundable, regardless of any action USCIS takes on an application, petition, or request. You must submit all fees in the exact amounts. USCIS will charge your credit card up to the amount you authorize below.

Please refer to the form(s) you are filing for additional information, or you may call the USCIS Customer Contact number at **1-800-375-5283**. For TTY (deaf or hard of hearing) call: **1-800-767-1833**.

Applicant's/Petitioner's/Requester's Information (Full Legal Name)

Given Name (First Name) Satyadhar	Middle Name (if any)	Family Name (Last Name) Joshi
--------------------------------------	----------------------	----------------------------------

Credit Card Billing Information (Credit Card Holder's Name as it Appears on the Card)

Given Name (First Name) Satyadhar	Middle Name (if any)	Family Name (Last Name) Joshi
--------------------------------------	----------------------	----------------------------------

Credit Card Holder's Billing Address:

Street Number and Name 613 Washington Blvd	Apt. Ste. Flr. <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Number 1007
City or Town Jersey City	State NJ	ZIP Code 07310

Credit Card Holder's Signature and Contact Information:

Credit Card Holder's Signature <i>S. Joshi</i>	
Credit Card Holder's Daytime Telephone Number +1 929 356 5046	Credit Card Holder's Email Address Satyadhar.Joshi@gmail.com

Credit Card Information

Credit Card Number 6011 0112 3220 9016	Credit Card Type: <input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> American Express <input checked="" type="checkbox"/> Discover	Authorized Payment Amount \$ 3820 .00
Credit Card Expiration Date (mm/yyyy) 04/2030		



Chapter 4

Form G-1145: USCIS e-Notification Request (Optional)



e-Notification of Application/Petition Acceptance

CHAPTER 4. FORM G-1145: USCIS E-NOTIFICATION REQUEST (OPTIONAL)

Department of Homeland Security

USCIS

U.S. Citizenship and Immigration Services

Form G-1145

What Is the Purpose of This Form?

Use this form to request an electronic notification (e-Notification) when U.S. Citizenship and Immigration Services accepts your immigration application. This service is available for applications filed at a USCIS Lockbox facility.

General Information

Complete the information below and clip this form to the first page of your application package. You will receive one e-mail and/or text message for each form you are filing.

We will send the e-Notification within 24 hours after we accept your application. Domestic customers will receive an e-mail and/or text message; overseas customers will only receive an e-mail. Undeliverable e-Notifications cannot be resent.

The e-mail or text message will display your receipt number and tell you how to get updated case status information. It will not include any personal information. The e-Notification does not grant any type of status or benefit; rather it is provided as a convenience to customers.

USCIS will also mail you a receipt notice (I-797C), which you will receive within 10 days after your application has been accepted; use this notice as proof of your pending application or petition.

USCIS Privacy Act Statement

AUTHORITIES: The information requested on this form is collected pursuant to section 103(a) of the Immigration and Nationality Act, as amended INA section 101, et seq.

PURPOSE: The primary purpose for providing the information on this form is to request an electronic notification when USCIS accepts immigration form. The information you provide will be used to send you a text and/or email message.

DISCLOSURE: The information you provide is voluntary. However, failure to provide the requested information may prevent USCIS from providing you a text and/or email message receipting your immigration form.

ROUTINE USES: The information provided on this form will be used by and disclosed to DHS personnel and contractors in accordance with approved routine uses, as described in the associated published system of records notices [DHS/USCIS-007 - Benefits Information System and DHS/USCIS-001 - Alien File (A-File) and Central Index System (CIS)], which can be found at www.dhs.gov/privacy. The information may also be made available, as appropriate for law enforcement purposes or in the interest of national security.

Complete this form and clip it on top of the first page of your immigration form(s).

Applicant/Petitioner Full Last Name	Applicant/Petitioner Full First Name	Applicant/Petitioner Full Middle Name
Email Address	Mobile Phone Number (Text Message)	

Chapter 5

ETA-9089 Appendix A



FOREIGN WORKER INFORMATION

A. Foreign Worker Contact Information

1. Foreign Worker's Last (family) Name *		
Joshi		
2. Foreign Worker's First (given) Name *		
Satyadhar		
3. Foreign Worker's Middle Name(s) *		
4. Address 1 (current) *		
775 Newark Avenue		
5. Address 2 (apartment/suite/floor and number) §		
Apt 4		
6. City *	7. State *	8. Postal Code *
Jersey City	NJ	07306
9. Country *	10. Province §	
USA	NJ	
11. Date of Birth (mm/dd/yyyy) *	12. Class of Admission *	13. Alien Registration Number (A#) (if applicable) *
05/04/1987	H1-B	131381652
14. Country of Birth *		
India		
15. Country of Citizenship or Nationality *		
India		

B. Foreign Worker Education §

a. Educational Attainment Information 1

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity		
<input type="checkbox"/> None <input type="checkbox"/> High School/GED <input type="checkbox"/> Associate <input type="checkbox"/> Bachelor's <input checked="" type="checkbox"/> Master's <input type="checkbox"/> Doctorate (PhD) <input type="checkbox"/> Other Degree (JD, MD, etc.)		
1a. If "Other Degree" in question 1, specify the diploma/degree attained		
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)		
Information Technology (Database Systems)		
1c. Name of Institution that issued the degree/diploma		
Touro College		
1d. Name of Country of institution identified in question 1c	1e. Month/year attained (mm/yyyy)	
USA	01/2019	

b. Educational Attainment Information 2

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity		
<input type="checkbox"/> None <input type="checkbox"/> High School/GED <input type="checkbox"/> Associate <input type="checkbox"/> Bachelor's <input checked="" type="checkbox"/> Master's <input type="checkbox"/> Doctorate (PhD) <input type="checkbox"/> Other Degree (JD, MD, etc.)		
1a. If "Other Degree" in question 1, specify the diploma/degree attained		
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)		
International Business		
1c. Name of Institution that issued the degree/diploma		
Bar Ilan University		
1d. Name of Country of Institution identified in question 1c	1e. Month/year attained (mm/yyyy)	
Israel	07/2017	



B. Foreign Worker Education (continued)

c. Educational Attainment Information 3

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity <input type="checkbox"/> None <input type="checkbox"/> High School/GED <input type="checkbox"/> Associate's <input checked="" type="checkbox"/> Bachelor's <input type="checkbox"/> Master's <input type="checkbox"/> Doctorate (PhD) <input type="checkbox"/> Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field) Electrical and Electronics Engineering	
1c. Name of Institution that issued the degree/diploma Rajiv Gandhi Technical University	
1d. Name of Country of Institution identified in question 1c India	1e. Month/year attained (mm/yyyy) 06/2010

d. Educational Attainment Information 4

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity <input type="checkbox"/> None <input type="checkbox"/> High School/GED <input type="checkbox"/> Associate's <input type="checkbox"/> Bachelor's <input type="checkbox"/> Master's <input type="checkbox"/> Doctorate (PhD) <input type="checkbox"/> Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)	
1c. Name of Institution that issued the degree/diploma	
1d. Name of Country of Institution identified in question 1c	1e. Month/year attained (mm/yyyy)

e. Educational Attainment Information 5

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity <input type="checkbox"/> None <input type="checkbox"/> High School/GED <input type="checkbox"/> Associate's <input type="checkbox"/> Bachelor's <input type="checkbox"/> Master's <input type="checkbox"/> Doctorate (PhD) <input type="checkbox"/> Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)	
1c. Name of Institution that issued the degree/diploma	
1d. Name of Country of Institution identified in question 1c	1e. Month/year attained (mm/yyyy)

C. Foreign Worker Training Qualifications §

a. Training, Certification(s), and/or License(s) Information 1

1. Name of Institution/School/Training provider
1a. Name of training, coursework, experience received



1b. Training/Certifications/licenses attained (if applicable)

1c. Start date of training (mm/yyyy)	1d. End date of training (mm/yyyy)	1e. Month/year awarded (mm/yyyy)
--------------------------------------	------------------------------------	----------------------------------

b. Training, Certification(s), and/or License(s) Information 2

1. Name of Institution/School/Training provider

1a. Name of training, coursework, experience received

1b. Training/Certifications/Licenses attained (if applicable)

1c. Start date of training (mm/yyyy)	1d. End date of training (mm/yyyy)	1e. Month/year awarded (mm/yyyy)
--------------------------------------	------------------------------------	----------------------------------

c. Training, Certification(s), and/or License(s) Information 3

1. Name of Institution/School/Training provider

1a. Name of training, coursework, experience received

1b. Training/certifications/licenses attained (if applicable)

1c. Start date of training (mm/yyyy)	1d. End date of training (mm/yyyy)	1e. Month/year awarded (mm/yyyy)
--------------------------------------	------------------------------------	----------------------------------

D. Foreign Worker Skills, Abilities and Proficiencies §

a. Skills, Abilities, and Proficiencies 1

1. Name of Employer/Institution/School/Training Provider

1a. Country 1b. State, Territory, or Province

1c. Description of specific skills, abilities, and/or proficiencies the foreign worker possesses or attained, which help establish whether the foreign worker meets the requirements identified for the job opportunity (*up to 1,500 characters*)



b. Skills, Abilities, and Proficiencies 2

1. Name of Employer/Institution/School/Training Provider	
1a. Country	1b. State, Territory, or Province
1c. Description of specific skills, abilities, and/or proficiencies the foreign worker possesses or attained, which help establish whether the foreign worker meets the requirements identified for the job opportunity (<i>up to 1,500 characters</i>)	

E. Foreign Worker Work Experience §

a. Work Experience 1

1. Employer Name Bank of America	
1a. Address 1 525 Washington Blvd	1b. Address 2
1c. City or Town Jersey City	1d. Postal Code 07310
1e. Country USA	1f. State, Territory, or Province NJ
1g. Job Title Quantitative Analyst / Assistant Vice President	
1h. Start Date (mm/yyyy) 11/2019	1i. End Date (mm/yyyy)
1j. Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1k. Hours Worked Per Week 40



11. Job Duties: Specify details of the job (work tasks performed, use of tools/equipment, supervision, etc.) (up to 3,500 characters)

Performing quantitative development and implementation of statistical models, machine learning algorithms and analytical libraries and tools;

Performing software development of high -performance, scalable and reusable libraries and software solutions;

Performing quantitative development of Risk Models to support Risk Management functions;

Working closely with modelers and other business partners to design, implement and validate models under tight deadlines; and,

Interfacing with technology teams to integrate models into production environment.

Assess market trends and provide quantitative data for internal partners and ultimately, clients.

Implement solutions applying both qualitative and quantitative methods.

Utilize advanced quantitative techniques and tools, such as, statistical analysis, predictive modeling, linear regressions, Python and R, as needed.

Develop and deliver modeling solutions and analytical tools to address regulatory requirements; provides quantitative expertise for a broad range of modeling areas across the Enterprise.

For Public Burden Statement, see the Instructions for Form ETA-9089.

Chapter 6

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 7

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.

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

Mr. Joshi possesses the required advanced academic credentials. Refer to Exhibit 2:

- **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

7.1 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.

7.1.1 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 9

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 7

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 8

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 11

7.1.2 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 10

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.
- Refer to Exhibits 14

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/CSEIT2025.01.0001>

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 12

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 13

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 15

7.1.3 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. Refer to Exhibits 22
- **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

7.1.4 Summary of Government Recognition Impact

Table 7.1: 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

7.1.5 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.

7.2 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. Refer to Exhibits 22
- 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.

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

²Vora, 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>

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

⁴Team 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

⁵MIT 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

7.2.1 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 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 7.2: 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	<i>Advancing U.S. Competitiveness in Agentic Gen AI: A Strategic Framework for Interoperability and Governance</i> (2025)	Agentic AI governance, U.S. competitiveness, and strategic frameworks for AI leadership	https://digitalcommons.harrisburg.edu/other-works/14/
Harrisburg University Digital Commons	<i>Leadership in the age of AI: Review of quantitative models and visualization for managerial decision-making</i> (2025)	AI-driven leadership models, quantitative decision-making, and organizational transformation	https://digitalcommons.harrisburg.edu/other-works/13/
Harrisburg University Digital Commons	<i>The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Review of Recent Developments</i> (2025)	AI-enhanced organizational behavior, team resilience, and human-AI collaborative decision-making	https://digitalcommons.harrisburg.edu/other-works/10/
Michigan Technological University Digital Commons	<i>Optimal Design of Thin-Film Plasmonic Solar Cells</i> (2018)	Renewable energy optimization and nanophotonic engineering research	https://digitalcommons.mtu.edu/michigantech-p/2109
Smithsonian / Harvard University (NASA ADS Database)	<i>Secure Multi-party Computation Protocol for Defense Applications</i> (2009)	Secure computation and encrypted data analysis for defense systems	https://ui.adsabs.harvard.edu/
Stanford University Libraries (SearchWorks)	<i>Secure Multi-Party Computation Protocol for Statistical Computation on Encrypted Data</i> (2009)	Privacy-preserving computation and data security in distributed environments	https://searchworks.stanford.edu/view/12926240

Table 7.3: 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, Kathmandu, 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 8

Proposed Endeavor: National Interest Statement

8.1 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.

8.2 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

¹S. 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.

²S. 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.

³S. 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

8.3 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

⁴S. 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.

⁵S. 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/ijjsra.2025.15.1.0045.

⁶S. 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.

⁷S. 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.

⁸S. 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.

⁹S. 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.

¹⁰S. 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.

8.4 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

8.5 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

¹¹S. 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.

¹²S. 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.

¹³S. 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.

¹⁴R. 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.

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

¹⁶S. 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.

¹⁷S. 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.

8.6 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

8.7 Nonprofit Startup Endeavor and Relevant Expertise

8.7.1 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-

¹⁸S. 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.

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

²⁰S. 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.

²¹S. 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.

8.8 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:

8.8.1 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

8.8.2 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

8.8.3 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

8.8.4 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

8.9 Substantial Merit and National Importance

8.9.1 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

8.9.2 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 applications²²
- Published advanced cybersecurity frameworks using Agentic AI and HPC²³
- Analyzed defense partnerships and technology transfer patterns²⁴

8.10 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.

8.10.1 Research and Development Goals

Objective	Metrics and Impact
Peer-Reviewed Publications	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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

²²R. 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.

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

²⁴A. 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.

8.10.2 Workforce Development Initiatives

Program	Projected Growth
Veterans in Financial AI	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Grow registrations significantly • Develop integrated curricula: Python for quant finance (2026), LLM prompt engineering (2027), synthetic data generation (2028)
Defense AI Training	<ul style="list-style-type: none"> • Train 500+ defense personnel annually by 2030 • Develop specialized courses for military AI applications • Partner with defense contractors and government agencies

8.10.3 Five-Year Impact Projection

Year	Key Initiatives	Projected Outcomes
2026	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 5,000+ course registrations • 15% improvement in model accuracy • 500+ veterans enrolled • Initial defense framework prototype
2027	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 20% reduction in fraud losses • 10,000+ paper downloads • 3 community bank partnerships • DOD collaboration initiated

2028	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 100+ veteran fellows placed • 30% reduction in compliance costs • 15,000+ MOOC enrollments • 2+ defense agency partnerships
2029	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Toolkit used by 2+ federal agencies • 25% boost in customer satisfaction • 20,000+ training completions • Defense workforce certification program
2030	<ul style="list-style-type: none"> • Expand veteran bootcamp nationally • Deploy predictive loan default analytics • Establish 2–5 regional training hubs • Publish workforce retraining framework • Critical infrastructure protection deployment 	<ul style="list-style-type: none"> • 1,000+ veterans trained annually • 15% drop in loan defaults • Engagement with 5+ state banking associations • National security AI framework deployment

8.11 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.

8.12 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 35 and by Dr Anjum Exhibit 34 for details on feasibility of the proposed endeavor projections.
Evidence of Top 10% Standing in Field	Expert Letter by Dr. Rozeria Exhibit 37 and by Dr Malik Exhibit 36
Verification of DOIs, Online Profiles, and Awards	Expert Letter by Dr Sheraz Exhibit 38 and Dr. Kamran Exhibit 39
Impact beyond employer to the overall field	Testimonial Letter by Mr. Ankit Exhibit 31 and Mr Gaurav Exhibit 32
Defense and National Security Applications	Defense research publications and analysis of international defense partnerships demonstrating national security relevance

Table 8.6: 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 9

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

9.1 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.

9.1.1 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

¹R. 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.

9.1.2 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).

9.1.3 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.⁴⁵ 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.

9.1.4 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:

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

³S. 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.

⁴A. 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.

⁵A. 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

9.1.5 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.

⁶Satyadhar 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 10

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.

10.1 Comparative Analysis: Conventional vs. Innovative Approaches

Conventional Methods	Mr. Joshi's Methods	Advantages and National Impact
Traditional statistical models	GenAI + HPC-driven risk models	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

10.2 Evidence of Innovation and Uniqueness

10.2.1 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.

10.2.2 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

10.3 Snowball Effect: Growing National Impact

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

10.3.1 Research Dissemination Growth

- Cumulative research downloads projected to reach 75,000+ within five years
- Annual readership growing from 5,000 (2026) to 40,000 by 2030
- Peer review activity increasing from 30 reviews (2026) to 60 reviews annually by 2030

10.3.2 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

10.3.3 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

10.4 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

10.5 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 11

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*.

11.1 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:

11.1.1 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

11.1.2 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

11.1.3 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)

11.1.4 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

11.2 Validation by Independent Experts

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

11.2.1 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."

11.2.2 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."

11.2.3 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."

11.3 Evidence-Based Projection Methodology

The impact projections are not speculative but based on:

11.3.1 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

11.3.2 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"

11.3.3 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)

11.4 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

11.5 Risk Mitigation and Contingency Planning

The projected impact accounts for potential implementation challenges:

11.5.1 Funding Variability

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

11.5.2 Regulatory Changes

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

11.5.3 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

11.6 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.

11.7 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 12

Prong 1: Substantial Merit and National Importance

12.1 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.

12.2 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.

12.3 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

12.4 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, entrepreneurship, 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 35** and also **Expert Opinion by Dr Anjum Exhibit 34** 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 contribution 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 36**. Dr. Rozeria Exhibit 37 for details validating current research metrics and publications by Independent Expert. Furthermore, mapping of Mr Joshi's work with each Prongs by Dr Sheraz Exhibit38 . 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 31.

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 32 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 frameworks³ and financial risk management⁴, 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 paper⁵ demonstrates how AI models enhance market resilience through GANs and VAEs. This work builds upon his earlier findings⁶ 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 37 as an independent expert also commented on the utility of the

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

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

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

⁵Satyadhar 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

⁶Satyadhar 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 Exhibit9

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 Exhibit9

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.

12.4.1 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.

12.4.2 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 37 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

12.4.3 Detailed Proposed Endeavor in Three Domains

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

Component	Detailed Description of Impact
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1. Advanced Risk Modeling	<ul style="list-style-type: none"> ● 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 31 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	<ul style="list-style-type: none"> ● Published 8+ peer-reviewed papers under the domains (See first pages of all papers in Exhibit 5) : <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● Establish "Veterans in Financial AI" program to train 500+ veterans annually ● Partner with American Legion to deliver: <ul style="list-style-type: none"> – 12-week intensive bootcamp – Industry-recognized certifications – Direct job placement pathways ● Create public educational resources on: <ul style="list-style-type: none"> – 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 published⁷ to develop frameworks aligned with NIST's AI Risk Management Framework⁸ in the future 2027-2030.
 - Expand his research on GANs/VAEs for market resilience⁹ already published to address CISA's AI threat landscape¹⁰.

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 methodologies¹¹ already published in line with FDIC's upskilling initiatives¹².
 - Adapt his workforce development frameworks¹³ for Treasury Department's financial stability programs¹⁴.

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 standards¹⁵.
- **Mr. Joshi's Proposed Contribution:**
 - Implement his AI agent frameworks¹⁶ already published by Mr Joshi can be

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

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

⁹Satyadhar 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

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

¹¹Satyadhar 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

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

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

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

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

¹⁶Satyadhar 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 2027-2030¹⁷.

- Bridge his AGI research¹⁸ already published can be used with SEC's enforcement priorities¹⁹.

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 reviews²⁰ into policy recommendations for FSOC²¹.
 - Apply Mr Joshi's financial risk models²² to DHS's critical infrastructure protection strategies²³.

Dr Sheraz Exhibit38 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.

12.5 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

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

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

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

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

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

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

²³DHS, "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 34.

Year	Key Proposed Initiatives	Projected Outcomes & Metrics
2026	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 5,000+ course registrations • 15% improvement in model accuracy • 500+ veterans enrolled
2027	<ul style="list-style-type: none"> • Publish <i>State of AI in U.S. Finance</i> 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 100+ veteran fellows placed ● 30% reduction in compliance costs ● 15,000+ MOOC enrollments
2029	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● Toolkit used by 2+ federal agencies ● 25% boost in customer satisfaction ● 20,000+ training completions
2030	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 1,000+ veterans trained annually ● 15% drop in loan defaults ● Engagement with 5+ state banking associations
2031	<ul style="list-style-type: none"> ● Full-scale portfolio optimization with AI ● Refresh online course content annually ● Publish AI impact review article ● Organize national symposium with regulators 	<ul style="list-style-type: none"> ● \$50M+ annualized risk savings ● 40,000+ research impressions ● 3+ policy recommendations implemented

Table 12.2: Integrated EB2-NIW Five-Year Impact Plan:
Generative AI for Financial Risk, Ethics, and Workforce
Development (2026–2031)

12.5.1 Five-Year Plan for Advancing Financial AI (2026-2031)

Endeavor Research and Publication Goals

Objective	Metrics and Impact
Peer-Reviewed Publications	<ul style="list-style-type: none"> Publish 3-4 open access papers annually in peer reviewed pre-prints and journals Focus areas: <ol style="list-style-type: none"> Generative AI and LLM for Finance and Business Real-time risk monitoring systems Adversarial robustness in financial models Target 20-30 paper reviews annually for Q1-Q4 journals
Proposed Public Policy Impact	<ul style="list-style-type: none"> Maintain 10,000-20,000 monthly downloads of policy materials. Refer to Expert Opinion Letters that validates projections. Expand repository to include: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Scale from current 1,000 to 10,000+ learners by 2030 Launch 3 new certification tracks: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • Grow registrations from 1K to 2K PMLE (Per Million Labor Force) • Develop ALTEX-integrated curricula: <ul style="list-style-type: none"> – Python for quant finance (2026) – LLM prompt engineering (2027) – Synthetic data generation (2028)
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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

12.5.2 Endeavor Open Source Free Course and Training Content Production Roadmap

Figure Analysis: The pie chart titled “Planned Content Production 2026–2031” 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
2026	500	8	3	2
2027	750	10	4	3
2028	1,000	12	5	5
2029	1,500	14	6	6
2030	2,000	16	7	8

Table 12.5: Projected Annual Impact Metrics for Mr. Joshi’s Initiatives (2026–2030)

12.5.3 Future Endeavor and Research Dissemination Strategy 2026-2031

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 37.

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.

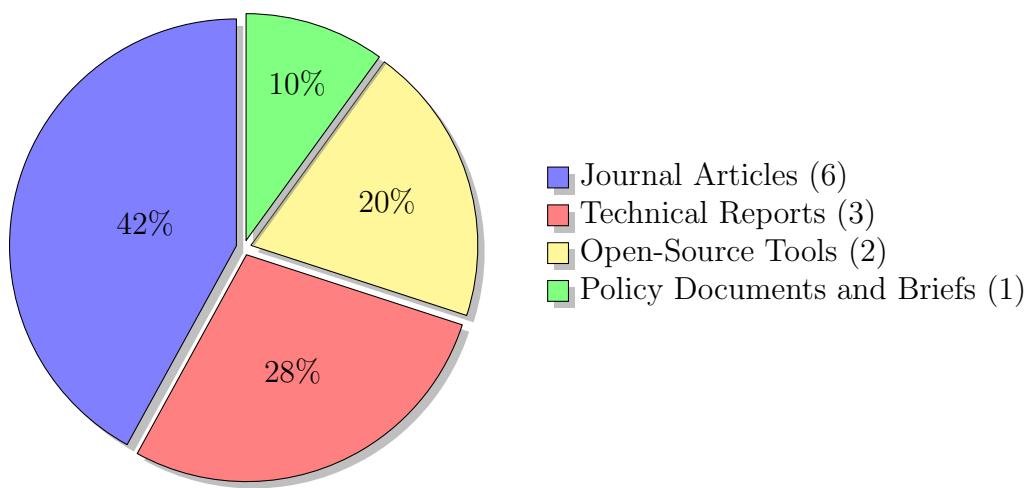


Figure 12.1: Planned content production 2026-2031 (total 42 items). Numbers in parentheses show annual averages for the Group or Individual. Focus areas align with Treasury FSOC priorities.

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 5

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 2026 to 2031 across platforms such as SSRN, ResearchGate, and academic repositories. Starting from a baseline of 5,000 unique readers in 2026, the projection estimates a steady increase, reaching 40,000 by 2031. 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 36**

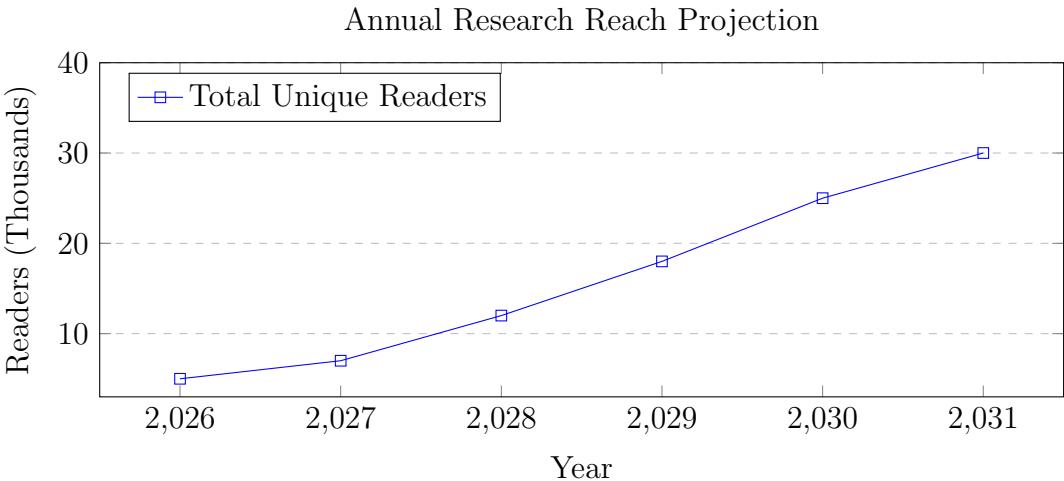


Figure 12.2: Projected annual readership of publications across SSRN, ResearchGate, and institutional repositories. Current baseline: 5,000 readers (2026) growing to 40,000 by 2031 through expanded open-access dissemination. Refer to Expert Opinion Letter validating these projections.

12.5.4 Endeavor Ongoing and Future Contributions as Peer Reviewer and Subject-Matter Expert (2026-2031)

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 2026 to 2031 across Q1-Q4 journals. The review activity is expected to grow from 30 reviews in 2026 to 60 in 2031, 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.

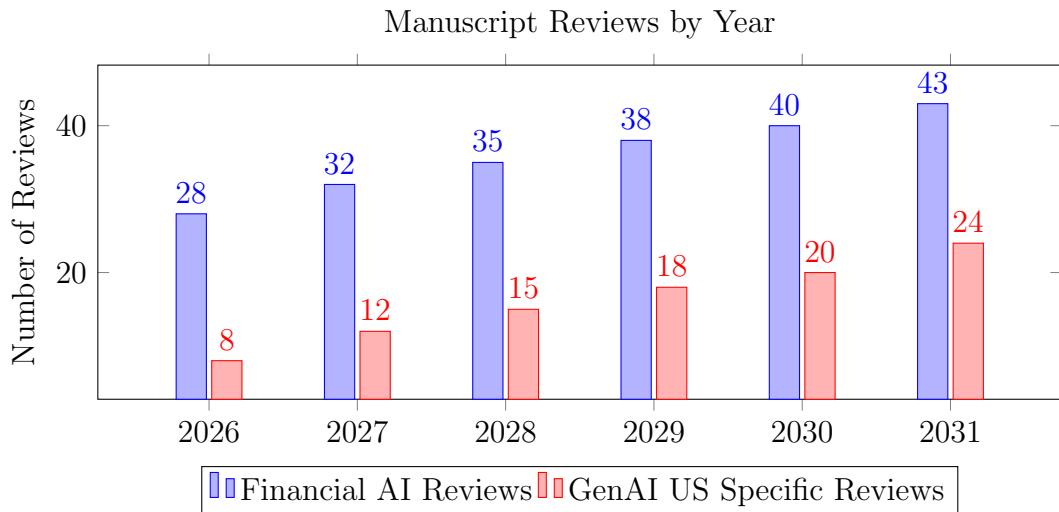


Figure 12.3: Projected peer review activity for Q1-Q4 journals, showing specialization in financial AI (70%) and US specific generative AI reviews (30%).

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.

12.5.5 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 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?pgm_id=504813.
- **Educating the Workforce:** As an active educator See Exhibit 33 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>.

12.6 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.

12.6.1 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.

12.6.2 Year-by-Year Implementation Timeline

2026–2027: 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.

2027–2028: 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.

2028–2029: 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.

2029–2030: 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.

12.6.3 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

12.6.4 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.

12.6.5 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 13

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

13.0.1 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]

13.1 Well-Positioned to Advance the Endeavor

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

13.1.1 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

13.1.2 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

13.1.3 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

13.1.4 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 and citation in Exhibit 27,

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 36, Dr. Rozeria Exhibit 37 , Dr. Asif Exhibit 35 , Dr. Kamran Exhibit 39 .

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>

²BLS, *Occupational Outlook Handbook* (2024)

Chapter 14

Prong 3: Balancing Factors

14.1 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.

14.1.1 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.

14.1.2 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.

14.1.3 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.

14.1.4 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>

²SEC, *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 36, Dr. Rozeria Exhibit 37 , Dr. Asif Exhibit 35 , Dr. Kamran Exhibit 39 .

14.1.5 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.
- **Proposed 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**.

³DHS, *AI Strategic Plan* (2024)

⁴CISA, *AI Threat Landscape* (2024)

⁵DOL, *Emerging AI Occupations Report* (2024)

⁶U.S. Treasury OFR, *AI Research Partnership Memo* (2024)

⁷CISA, *AI Threat Landscape* (2024)

⁸DHS, *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.

14.1.6 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.

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

¹⁰Satyadhar 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

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

¹²Satyadhar 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 management¹³ directly supports the **U.S. Treasury's** goals for AI-driven financial monitoring¹⁴.
- **Workforce Competitiveness:** Studies on AI upskilling by the applicant¹⁵ align with the **Department of Labor's** initiatives to mitigate job displacement through reskilling.
- **Technological Leadership:** Frameworks for agentic AI published by the applicant¹⁶ and AGI preparedness¹⁷ 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)

¹³Satyadhar 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

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

¹⁵Satyadhar 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

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

¹⁷Satyadhar 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.

14.1.7 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 3.

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.

14.1.8 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.

14.2 Conclusion

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

RFE Deficiency	Response
Lack of detailed endeavor	Section 12 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 12.5

Chapter 15

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.

15.1 Direct Response to USCIS Concerns

15.1.1 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.

15.1.2 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.

15.1.3 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 10): 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.

15.1.4 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 12.5): 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.

15.1.5 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.

15.2 Satisfaction of Dhanasar Framework

15.2.1 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.

15.2.2 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.

15.2.3 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.

15.3 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 16

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.

Educational Credentials

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

Professional Qualifications and Background

Exhibit 1: 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 3: 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 5: 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 9: 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 18: 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 19: 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 20: 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 21: 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 22: 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 6: 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 8: 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 16: Index Copernicus Recognition demonstrates international scholarly validation through inclusion in a European journal indexing system that evaluates publication quality and research impact.

Exhibit 23: Econ Papers Indexing shows inclusion in economics research databases, indicating recognition within the economics research community.

Exhibit 24: 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 26: SSRN Repository shows early dissemination of research through a leading social science research network, indicating engagement with academic communities prior

to formal publication.

Exhibit 27: ResearchGate Profile provides evidence of professional networking and research sharing within global academic communities, with demonstrated readership and citation metrics.

Exhibit 28: 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 30: 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 31: Industry Testimonial from Mr. Ankit Gupta provides independent validation of Mr. Joshi's technical expertise and professional impact from industry colleagues.

Exhibit 32: Industry Testimonial from Mr. Gaurav Sharma offers additional professional endorsement from senior industry professionals, corroborating Mr. Joshi's qualifications and contributions.

Volunteering Free Online course for US Veterans

Exhibit 33: Udmey Courses by Mr Joshi.

Independent Expert Opinions

Exhibit 34: 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 35: 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 36: 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 37: 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 38: 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 39: 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 40 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.

Chapter 17

Exhibits

Contents

Chapter 1

Exhibits : Resume

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

Chapter 2

Exhibits : Academic Degrees and Evaluations

Touro College

Graduate School of Technology

On Recommendation of the Faculty
The Trustees of Touro College hereby confer upon

Satyadhar Joshi

the Degree of
Master of Science

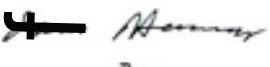
Information Systems: Database Systems

with all the rights, honors, and privileges thereunto appertaining.
In witness thereof, the seal of the College and the signatures of its duly
authorized Officers are hereunto affixed.

Conferred this Twenty-Ninth Day of January, Two Thousand Nineteen


Mark Haster
Chairman, Board of Trustees




Al Kassab
President

Thomas
Dean



Lovely Professional University

Established by an Act of the Legislature of the State of Punjab, the Lovely Professional University Act, 2005
(Act No. 25 of 2005), and recognised by the UGC under Section 2(f) of the UGC Act, 1956

On recommendation of the Academic Council,
Lovely Professional University admits

Satyadhar Joshi

S/o Mr. Shashidhar Joshi and Ms. Santosh

to the

Post Graduate Diploma in Information Technology

in the First Division
having completed the prescribed requirements
in distance education mode.

Given under the seal of the University
at Phagwara, Punjab, India
at the Convocation
on the Twenty First day of April, Two Thousand and Fifteen.

Monica Gulati
Registrar

Rokanwar
Vice Chancellor

Wadekar
Chancellor

Certificate Number : 149419

Registration Number: 21301445057

This Degree can be authenticated by submitting the certificate number to www.lpu.in/authenticate or e-mail to recordverification@lpu.co.in



Bar-Ilan University

THE SENATE OF

BAR-ILAN UNIVERSITY

HEREBY CONFERS UPON

Satyadhar Joshi

THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

INTERNATIONAL MBA PROGRAM

HAVING SUCCESSFULLY COMPLETED ALL REQUISITE COURSES OF STUDY

IN RAMAT GAN, ISRAEL, ON THE 4th DAY OF JULY, 2017



Professor Miriam Faust
Rector, University

Rabbi Professor Daniel Hershkowitz
President, University



LOVELY PROFESSIONAL UNIVERSITY

Jalandhar-Delhi G.T. Road (NH-1), Phagwara, Punjab (India)-144411

Established by the State Legislature of Punjab through the Lovely Professional University Act and Recognized by UGC under Section 2(f) of the UGC Act, 1956

Academic Transcript

Post Graduate Diploma in Information Technology

Registration No.	: 21301445057	Name	: Satyadhar Joshi
Batch Year	: 2013	Father's Name	: Sh. Shashidhar Joshi
Mode	: Distance Education	Mother's Name	: Smt. Santosh



Term : 1		TGPA : 7.40	Equivalent Percentage : 66.60%
S.No.	Course	Credits	Grade
1	DCAP401 FOUNDATIONS OF COMPUTER PROGRAMMING	4.0	A
2	DENG401 ADVANCED COMMUNICATION SKILLS	4.0	B+
3	DMGT409 BASIC FINANCIAL MANAGEMENT	4.0	C
4	DCAP402 DATABASE MANAGEMENT SYSTEMS	4.0	B+
5	DCAP403 OPERATING SYSTEMS	4.0	B

Term : 2		TGPA : 8.00	Equivalent Percentage : 72.00%
S.No.	Course	Credits	Grade
1	DCAP405 SOFTWARE ENGINEERING	4.0	C
2	DCAP406 COMPUTER NETWORKS	4.0	B
3	DCAP408 WEB PROGRAMMING	4.0	B
4	DCAP404 OBJECT ORIENTED PROGRAMMING	4.0	A
5	DCAP409 ANALYSIS AND DESIGN OF INFORMATION SYSTEMS	4.0	A

The student has successfully completed the Program

CGPA : 7.70
Equivalent Percentage : 69.30%

- 'Credit' means credit allotted to the course and 'Grade' means grade earned by the student.
- Basis of evaluation, grading, minimum CGPA requirement and other information is printed overleaf.
- This transcript can be authenticated by submitting the certificate number to www.lpu.in/authenticate.
- Examinations held during Apr 2014 and Dec 2014.

Certificate No. D1530120

Print Date: 04-05-2015

Place : Phagwara (Punjab)

Prepared By

IT Cell

(Officer Incharge)
Checked & Verified by

For Dean (Examination)

Name: SATYADHAR JOSHI



אוניברסיטת בר-אילן
Bar-Ilan University
RAMAT-GAN 5590002, ISRAEL
ACADEMIC SECRETARIAT

IMBA

ID: 2-2676546-9
INTERNATIONAL BUSINESS ADMINISTRATION

Department	Course Number	Description	Hours Fall	Grade Fall	Hours Spring	Grade Spring
Year 2014 - 2015						
Business Adm.	334	Intro to Economics: Macro-Micro			3	92
Year 2015 - 2016						
Business Adm.	308	Principles of Finance	3	100		
Business Adm.	309	Principles of Management	3	92		
Business Adm.	312	Quantitative Methods	3	93		
Business Adm.	315	Principles of Information System	3	93		
Business Adm.	317	Business Ethics				
Business Adm.	318	Principles of Marketing	3	84		
Business Adm.	319	International Marketing	3	90		
Business Adm.	327	Financial Accounting	3	93		
Business Adm.	331	Cross Cultural Negotiations	3	75		
Business Adm.	332	Business Law			1	88
Business Adm.	345	Intercultural Business Policy	3	83		
Business Adm.	348	Research Methods	3	85		
Business Adm.	351	Organizational Behavior			3	89
Business Adm.	369	Corporate Finance			3	82
Business Adm.	375	Global Management in the Far-East - Field trip			3	
Business Adm.	395	Contemporary Issues in Israel	2	95	2	95

Remarks: Scholastic Index: 89.17%

Date Issued: September 15 , 2016

RECORDER:

JN

Not valid without original
signature and impressed seal

SECRETARY OF ACADEMIC AFFAIRS:
DR. RACHEL S. LEVY-DRUMMER

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL



(University of Technology of Madhya Pradesh)
INDIA

No. : 087012

06/07/2010

Date :

PROVISIONAL DEGREE CERTIFICATE

This is to certify that Mr./Ms. SATYADHAR JOSHI

Son/Daughter of Mr./Mrs. SHASHIDHAR JOSHI

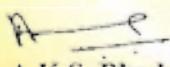
Enrolment No. 0802EX061048 who was a student at Shri Vaishnav Institute of T-
echnology & Science, Indore has completed all the requirements and has

become eligible for award of BE, Electrical & Electronics Engg.

in JUNE-2010 and is placed in FIRST Division.

The degree shall, however, be conferred at the forthcoming convocation.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA
Airport Bypass Road, Gandhi Nagar, Bhopal - 462 036.
Phone : (0755) 2678891, 2678832, 2678855.


(Dr. A.K.S. Bhadoria)
Registrar



RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA

(University of Technology of Madhya Pradesh)

Airport Bypass Road Gandhi Nagar BHOPAL 462 033 TEL: 91 755 2678855

Web site: www.rgpv.ac.in Email: ce@rgtu.net

Name: SATYADHAR JOSHI Enrollment No.:0802EX061048
 D/S/W/O: SHASHIDHAR JOSHI
 Course: B.E., Branch:- Electrical and Electronics Engg.
 College: Shri Vaishnav Institute of Technology & Science, Indore
 University: Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal
 First Year, Semester-I YEAR:JUN-2007 Status:EX

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
BE101	Engineering Chemistry	100	20	120	50	30	80	51C	14C	65C	44C	20C	64C
BE202	Engineering Mathematics-II	100	20	120	--	--	--	35	11	46	--	--	--
BE103	Communication Skills	100	20	120	--	--	--	63C	11C	74C	--	--	--
BE104	Basic Electrical Engineering	100	20	120	50	30	80	54C	11C	65C	40C	12C	52C
BE105	Engineering Graphics	100	20	120	50	30	80	36C	10C	46C	40C	26C	66C
BE106	WORKSHOP PRACTICE	--	--	--	50	30	80	--	--	--	43C	15C	58C
BE107	Computer Lab	--	--	--	50	30	80	--	--	--	45C	19C	64C
	TOTAL	500	100	600	250	150	400	239	57	296	212	92	304

GRAND TOTAL-600/1000

First Year, Semester-II

RESULT-PASS

YEAR:DEC-2007

Status:EX

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
BE201	Engineering Physics	100	20	120	50	30	80	39C	07C	46C	35C	25C	60C
BE102	Engineering Mathematics-I	100	20	120	--	--	--	30G	07C	37	--	--	--
BE203	Engineering Mechanics	100	20	120	50	30	80	67C	01C	68C	38C	11C	49C
BE204	Basic Mechanical Engineering	100	20	120	50	30	80	59	07	66	40C	17C	57C
BE205	Basic Civil Engineering	100	20	120	50	30	80	53C	04C	57C	25C	18C	43C
BE206	Computer Programming- I	--	--	--	50	30	80	--	--	--	40C	19C	59C
	TOTAL	500	100	600	250	150	400	248	26	274	178	90	268

GRAND TOTAL-542/1000

RESULT-PASS BY GRACE

Checked & Verified



Examination Section

Rajiv Gandhi Proudyogiki Vishwavidyalaya
Bhopal (M.P.) INDIA

(Prof. A.K.S. Shadnia)

Registrar

Registrar

RGPV BHOPAL(M.P.)

Rajiv Gandhi Proudyogiki Vishwavidyalaya

BHOPAL (M.P.)



RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA

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Name: SATYADHAR JOSHI Enrollment No.:0802EX061048
 D/S/W/O: SHASHIDHAR JOSHI
 Course: B.E., Branch:- Electrical and Electronics Engg.
 College: Shri Vaishnav Institute of Technology & Science, Indore
 University: Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal
 Second Year, Semester-III YEAR:DEC-2007 Status:Regular

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
EX301	Engineering Mathematics - III	100	20	120	--	--	--	39	02	41	--	--	--
EX302	Energy Eco. Environ. & Society	100	20	120	--	--	--	62	03	65	--	--	--
EX303	Network Analysis	100	20	120	50	30	80	43	04	47	30	20	50
EX304	Electrical Instrumentation	100	20	120	50	30	80	37	05	42	27	23	50
EX305	Electronics Devices and Circuits I	100	20	120	50	30	80	39	07	46	30	21	51
EX306	Computer Programming - III	--	--	--	50	50	100	--	--	--	35	36	71
EX307	Self Study	--	--	--	--	30	30	--	--	--	--	19	19
EX308	Seminar/Grp Discussion etc.	--	--	--	--	30	30	--	--	--	--	20	20
TOTAL		500	100	600	200	200	400	220	21	241	122	139	261
GRAND TOTAL-502/1000													

RESULT-PASS

Second Year, Semester-IV

YEAR:DEC-2008

Status:EX

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
EX401	E.M.E.C. -I	100	20	120	50	30	80	37C	10C	47C	45	13	58
EX402	Electrical & Electronics Material	100	20	120	--	--	--	73C	13C	86C	--	--	--
EX403	Electronic Devices & Circuits II	100	20	120	50	30	80	55C	13C	68C	40C	26C	66C
EX404	Digital Electronics Logic Design I	100	20	120	50	30	80	35	12	47	25	20	45
EX405	Electro-Magnetic Theory	100	20	120	--	--	--	37	15	62	--	--	--
EX406	Computer Programming- IV				50	50	100	--	--	--	44C	47C	91C
EX407	Self Study	--	--	--	--	30	30	--	--	--	--	24C	24C
EX408	Seminar/Grp Discussion etc	--	--	--	--	30	30	--	--	--	--	24C	24C
TOTAL		500	100	600	200	200	400	237	63	300	154	154	308
GRAND TOTAL-608/1000													

RESULT-PASS

Checked & Verified



Examination Section
 Rajiv Gandhi Proudyogiki Vishwavidyalaya
 Bhopal (M.P.) INDIA

(Prof. A.K.S. Bhadoria)
 Registrar
 Rajiv Gandhi Proudyogiki Vishwavidyalaya
 BHOPAL (M.P.)

Registrar
 RGPV BHOPAL(M.P.)



RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA

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Airport Bypass Road Gandhi Nagar BHOPAL 462 033 TEL: 91 755 2678855

Web site: www.rgpv.ac.in Email: ce@rgtu.net

Name: SATYADHAR JOSHI

D/S/W/O: SHASHIDHAR JOSHI

Course: B.E.,

College: Shri Vaishnav Institute of Technology & Science, Indore

University: Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal

Third Year, Semester-V

YEAR:JUN-2009

Status:EX

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
EX501	Utilization of Electrical Energy	100	20	120	--	--	--	50C	10C	60C	--	--	--
EX502	Found. of Microproc. & Microcont.	100	20	120	50	30	80	74C	10C	84C	40	15	65
EX503	E.M.E.C II	100	20	120	50	30	80	66	08	74	40	17C	57
EX504	Analog & Digital Communication	100	20	120	50	30	80	43C	05C	48C	35C	13C	48C
EX505	Power System I	100	20	120	50	30	80	42C	13C	55C	40	19C	59
EX506	Computer Programming-V	--	--	--	50	-	50	--	--	--	42C	--	42C
EX507	Seminar / G.D. etc	--	--	--	--	30	30	--	--	--	--	18C	18C
	TOTAL	500	100	600	250	150	400	275	46	321	197	82	279

GRAND TOTAL-600/1000

RESULT-PASS

Third Year, Semester-VI

YEAR:JUN-2009

Status:Regular

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
EX601	Electronics Transmission System	100	20	120	--	--	--	35	09	44	--	--	--
EX602	Control System	100	20	120	50	30	80	48	16	64	30	26	56
EX603	Power System II	100	20	120	50	30	80	55	16	71	45	25	70
EX604	Electronic Instrumentation	100	20	120	50	30	80	62	18	80	48	28	76
EX605	Energy Conservation Mgt.	100	20	120	--	--	--	46	17	63	--	--	--
EX606	Minor Project-I	--	--	--	50	50	100	--	--	--	43	45	88
EX607	Self Study.	--	--	--	--	30	30	--	--	--	--	25	25
EX608	Seminar/group Discussion etc.	--	--	--	--	30	30	--	--	--	--	25	25
	TOTAL	500	100	600	200	200	400	246	76	322	166	174	340

GRAND TOTAL-662/1000

RESULT-PASS

Checked & Verified



Examination Section
Rajiv Gandhi Proudyogiki Vishwavidyalaya
Bhopal (M.P.) INDIA

(Prof. A.K.S. Bhadoria)
Registrar

Rajiv Gandhi Proudyogiki Vishwavidyalaya
Bhopal (M.P.)

Registrar

RGPV Bhopal (M.P.)



RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA

(University of Technology of Madhya Pradesh)

Airport Bypass Road Gandhi Nagar BHOPAL 462 033 TEL: 91 755 2678855

Web site: www.rgpv.ac.in Email: ce@rgtu.net

Name: SATYADHAR JOSHI
D/S/W/O: SHASHIDHAR JOSHI

Enrollment No.:0802EX061048

Course: B.E.,

Branch:- Electrical and Electronics Engg.

College: Shri Vaishnav Institute of Technology & Science, Indore

University: Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal

Fourth Year, Semester-VII

YEAR:Jun-2010

Status:EX

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
EX701	Power Electronics Devices & Circuits	100	20	120	50	30	80	65	17	82	40 C	27C	67C
EX702	Power System Stability and Control	100	20	120	--	--	--	47C	19C	66C	--	--	--
EX703	Digital Signal Processing	100	20	120	--	--	--	59	18	77	--	--	--
EX7103	Elective I	100	20	120	--	--	--	65C	18C	83C	--	--	--
EX7201	Elective II	100	20	120	--	--	--	51C	18C	69C	--	--	--
EX704	Major Project (Planning & Survey)	--	--	--	50	30	80	--	--	--	45 C	28C	73C
EX705	Industrial Training	--	--	--	50	50	100	--	--	--	44 C	45C	89C
EX706	Self Study	--	--	--	--	30	30	--	--	--	--	29C	29C
EX707	Seminar / G.D.	--	--	--	--	30	30	--	--	--	--	29C	29C
EX708	Electrical Simulation Lab	--	--	--	50	30	80	--	--	--	49 C	28C	77C
	TOTAL	500	100	600	200	200	400	287	90	377	178	186	364

GRAND TOTAL-741/1000

RESULT-PASS

Fourth Year, Semester-VIII

YEAR:JUNE-2010

Status:Regular

SUBJECT CODE	SUBJECTS	MAXIMUM MARKS						MARKS OBTAINED					
		THEORY BLOCK			PRACTICAL BLOCK			THEORY BLOCK			PRACTICAL BLOCK		
		End Sem	Mid Sem	Total	Pract	Term Work	Total	End Sem	Mid Sem	Total	Pract	Term Work	Total
EX801	Comp. Aided Elec. M/C Design	100	20	120	50	30	80	74	18	92	49	28	77
EX802	Power Semiconductor drive	100	20	120	50	30	80	63	17	80	42	27	69
EX8301	High Voltage Engg (E-III)	100	20	120	--	--	--	63	19	82	--	--	--
EX8401	Comp. App. In Power System	100	20	120	--	--	--	58	18	76	--	--	--
EX803	Major Project	--	--	--	100	100	200	--	--	--	88	89	177
EX804	Industrial Training	--	--	--	50	30	80	--	--	--	45	26	71
EX805	Self Study	--	--	--	--	50	50	--	--	--	--	49	49
EX806	Seminar & G.D.	--	--	--	--	30	30	--	--	--	--	29	29
	TOTAL	400	80	480	250	270	520	258	72	330	224	248	472

GRAND TOTAL-802/1000

AGGREGATE:2258/3200

DIVISION : FIRST 70.56 %

Checked & Verified



Examination Section
Rajiv Gandhi Proudyogiki Vishwavidyalaya
Bhopal (M.P.) INDIA

(Prof. A.K.S. Bhaduria)

Registrar

Registrar

RGPV BHOPAL(M.P.)

Rajiv Gandhi Proudyogiki Vishwavidyalaya
BHOPAL (M.P.)



RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA

(University of Technology of Madhya Pradesh)

Airport Bypass Road Gandhi Nagar BHOPAL 462 033 TEL: 91 755 2678855-91

Web site: www.rgpv.ac.in Email: ce@rgtu.net

OFFICIAL TRANSCRIPT FOR SEEKING ADMISSION IN FOREIGN UNIVERSITY

Name:- Satyadhar Joshi

Enrollment No:- 0802EX061048

Education:- Bachelor of Engineering

Name of College:- Shri Vaishnav Institute of Technology & Science, Indore

Name of University:- Rajiv Gandhi Proudyogiki Vishwavidyalaya, BHOPAL

Father's Name:- Shashidhar Joishi

Branch:- Electrical & Electronics Engg

This is to certify that **Satyadhar Joshi** is a bona-fide student of "Shri Vaishnav Institute of Technology & Science, Indore" from the academic year 2006-2010 in Electrical & Electronics Engg branch.

All examinations have been conducted under the jurisdiction of the "**RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL (M.P.)**" Records of marks obtained by him in each semester are enclosed herewith. This university follows aggregated performance in examination for theory, sessional and final year project.

The degree course consists of 8 semesters. The system for calculating the aggregate of the total course is as follows:

10% weight age of 1st year.

20% weight age of 2nd year.

30% weight age of 3rd year .

100% weight age of 4th year.

Details of the course are as follows :

1. Total numbers of semester - 8 (2 semester per year).
2. Duration of course - 4 years.
3. Medium of instructions - English.

Percentage system :-

75% or above – Distinction

65% or above – First class

45% or above – Second class

35% or above – Pass

Below 35% - Fail

G – Pass by grace

G.P.A (Grade Point Average) in not followed by "**RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA,BHOPAL(M.P.)**"

Checked & Verified

Examination Section

Rajiv Gandhi Proudyogiki Vishwavidyalaya
Bhopal (M.P.) INDIA


(Prof. A.K.S. Bhadoria)

Registrar

Rajiv Gandhi Proudyogiki Vishwavidyalaya
BHOPAL (M.P.)

Registrar
RGPV BHOPAL(M.P.)



Name

Satyadhar Joshi

ID Number

Social Security Number

Date of Birth

T00317083

05/04/1987

Page: R1
Date: 20-MAR-2025
Level: NY Graduate

Course Level: NY Graduate
Only Admit: Spring 2017

Current Program
Master of Science

Program : MS in Information System (MIS)
College : Graduate School of Tech (NY)

Major : Information Systems

Concentration : Database Systems

Degree Awarded Master of Science 29-JAN-2019
Primary Degree

Program : MS in Information System (MIS)
College : Graduate School of Tech (NY)

Major : Information Systems

Concentration : Database Systems

INSTITUTION CREDIT:
Spring 2017

SUBJ NO.	COURSE TITLE	CRED GRD	R
MSIN 605	Strtgc Mgt Tech	3.000 A	
MSIN 609	Prjs Managment	3.000 A+	
MSIN 615	BH Databs Mgt&Desing	3.000 A-	

Ehrs: 9.000 Qpts: 35.001
GPA-Hrs: 9.000 GPA: 3.889

Fall 2017

SUBJ NO.	COURSE TITLE	CRED GRD	R
MSIN 607	Eff Orl&Wrt Com	3.000 A+	
MSIN 616	Adv Databse Management	3.000 A	

Ehrs: 9.000 Qpts: 33.000
GPA-Hrs: 9.000 GPA: 3.909

SUBJ NO. COURSE TITLE

CRED GRD R

Institution Information continued:

MSIN 627 MM MultidimenAnlytcs&CubeDsgn 3.000 A

Ehrs: 9.000 Qpts: 36.000
GPA-Hrs: 9.000 GPA: 4.000

Spring 2018

MSIN 618 MM Cloud Based Database Systems 3.000 A

MSIN 624 MM Database Reporting Services 3.000 A

MSIN 626 MM Database Security 3.000 A-

Ehrs: 9.000 Qpts: 35.001
GPA-Hrs: 9.000 GPA: 3.889

Fall 2018

MSIN 620 MM Database Administration 3.000 A-

MSIN 695 MM Research Prjct 3.000 A

Ehrs: 6.000 Qpts: 23.001
GPA-Hrs: 6.000 GPA: 3.833

***** INSTITUTION *****

Ehrs: 33.000 Qpts: 129.003
GPA-Hrs: 33.000 GPA: 3.909

***** OVERALL *****

Ehrs: 33.000 Qpts: 129.003
GPA-Hrs: 33.000 GPA: 3.909

***** END OF TRANSCRIPT *****

Issued To: Satyadhar Joshi
613 Washington Blvd PMB 1007
Jersey City, 07310-2900

Lidia Meindl
Lidia Meindl, University Registrar



Accreditation

As of February 2022, Touro College was granted university status and changed its name to Touro University.

Touro University is accredited by the Middle States Commission on Higher Education as a degree-granting institution on the undergraduate, graduate, professional, and doctoral levels. Touro College Los Angeles, a division of Touro University Worldwide, is accredited by the WASC Senior College and University Commission (WSCUS).

Touro University operates on the semester system. As of the summer 2021 semester, Touro College Illinois [a school of Touro University] was structured to follow a trimester academic calendar for their nursing program.

Credits

A Credit Unit is normally 1 classroom contact hour of 50 minutes per week or an appropriate equivalent and requires 2 hours of preparation. A minimum of 120 credits is required for the Bachelor's Degree and a minimum of 60 for the Associate's Degree. For graduate, professional and doctoral programs, consult the appropriate school catalog.

Dean's List

Full-time matriculated students from undergraduate schools who achieve records of excellence in any academic semester are placed on the "Dean's List." Criteria for the Dean's List are a course load of at least 12 credits a term and GPA of 3.40 or better in a given semester.

For the College of Pharmacy, criteria for the Dean's List are a course load of at least 12 credits a term, a GPA of 3.50 or better in a given semester, no grade below "C" and no "INC" grades.

Graduation Honors

Undergraduate (Associate's degree)

Academic Excellence	3.70 - 4.00
Academic Distinction	3.50 - 3.69

Undergraduate (Bachelor's degree)

Summa Cum Laude	3.80 - 4.00
Magna Cum Laude	3.60 - 3.70
Cum Laude	3.40 - 3.50

College of Pharmacy

Summa Cum Laude	3.90 - 4.00
Magna Cum Laude	3.75 - 3.89
Cum Laude	3.60 - 3.74

Grading System

Grade	Grade Point Equivalent	Explanation
A+	4.0	Excellent
A	4.0	Excellent
A-	3.667	Excellent
B+	3.333	Good
B	3.0	Good
B-	2.667	Good
C+	2.333	Average
C	2.0	Average
C-	1.667	Average
D+	1.333	Poor but Passing
D	1.0	Poor but Passing
D-	0.667	Poor but Passing
F	0.0	Failure
P	0.0	Passing

Other grades

Grade	Grade Point Equivalent	Explanation
AU or AUD	0.0	Audited Course
F/C	2.0	Satisfactory With Remediation (Dental Medicine only)
F/P	0.0	Satisfactory With Remediation (Dental Medicine only)
HP	0.0	High Pass (Osteopathic Medicine program only)
I or INC	0.0	Incomplete
IP	0.0	In Progress
N or NG	0.0	No Grade Submitted or Non-graded, Non-credit course
NC	0.0	No Credit
TR	0.0	Transfer Credit
TRH	0.0	Transfer Credit: High School
U	0.0	Unsatisfactory
UC	2.0	Satisfactory with Remediation (Osteopathic Medicine only)
UP	0.0	Pass with Remediation (Osteopathic Medicine only)
W	0.0	Withdrawal
WF	0.0	Withdrawal: While Failing
WNA	0.0	Withdrawal: Never Attended
WP	0.0	Withdrawal: Passing
WU	0.0	Withdrawal: Unofficial
YC	0.0	Year-Long Course
CP	0.0	Completed (Continuing Education courses only)
NCP	0.0	Not Completed (Continuing Education courses only)

Course Numbering System

0 - 499	Undergraduate Courses
500 - 599	Used for experimental courses or non-credit seminars
600 - 999	Graduate, Professional and Doctoral Courses

Historical Notes

During Fall 1971, only grades of **H** (Honors) and **P** (Passing) were given. From 1971 to the Fall 1975, only passing grades were posted. Prior to Fall 1981, grades of **WF** (Withdrawal: While Failing), **WU** (Withdrawal: Unofficial), and **WP** (Withdrawal: Passing) were posted. Prior to Spring 2001, **NA** was assigned to students who never attended and did not withdraw from class (which was calculated as an **F**), and **CPR** (Credit on Permit Received) was assigned to students for transfer credits. From Fall of 1994, grade **G** (Failing) was changed to **WU** (Withdrawal: Unofficial). **R** (Repeat Remedial Course) was assigned to students not yet ready to advance to the next level. **T** (Passing Remedial Course) was assigned to students ready to proceed to the next remedial level. **TU** was assigned to students recommended to attend Intensive Summer Workshop. **UP** or **UD** Satisfactory With Remediation (Pharmacy Program Only).

In the Summer 2016, the Master of Science in Instructional Technology program was moved to the Graduate School of Technology after previously being offered by the Graduate School of Education. In addition, all programs previously offered under the Graduate School of Psychology are now provided by the School of Health Sciences.

Touro University
Office of the Registrar
202 West 43rd Street, New York, NY 10036
Ph. 212-463-0400 Fax 646-495-3868
transcript@touro.edu

Campus Codes

Bayshore Campus: **BO, BU, BW, BY**; Berlin Campus: **ER**; Brooklyn Campus: **BB, BH, BJ, BN, BQ, BS, BT**; Clinical Sites: **CS**: Great Falls – Montana MG; Harlem Campus: **HR**; Historical Campus: **XC**; Illinois Campus: **TI**; Israel Year Abroad Campus: **IL, IO**; Israel Campus: **IS**; Long Island Campus: **CL, CU**; Los Angeles Campus: **LA**; Manhattan Campus: **M6, MB, MH, MM, MR**; Miami Campus: **MA**; Middletown Campus: **MT**; Moscow Campus: **MS**; Offsite Campus: **OL, OS**; Online Campus: **HW, WI, WL, WW**; Paris Campus: **PA**; Queens Campus: **QF, QH, QK**; Valhalla Campus: **VT**

Family Educational Rights and Privacy Act (FERPA)

(20 U.S.C. 1232g; 34 CFR Part 99)

In accordance with the Family Educational Rights and Privacy Act of 1974, the information on this transcript is provided with the understanding that the recipient will not allow any other person to have access to this information without the written consent of the student.

As of April 2016, the Touro University and its subsidiaries implemented a new student information system. In so doing, the formatting of student transcripts changed. This will certify that the transcript format produced on or after May 2, 2016, official, or unofficial is the result of the change to the new system.

Effective May 2nd, 2016, Touro University has changed the color of the transcript paper from Green to Blue.

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As of December 2024

EVALUATION - NOT AN OFFICIAL COPY

Reference Number: 3085924

Date completed: September 13, 2016

U.S. EQUIVALENCY SUMMARY

Bachelor's degree from a regionally accredited institution

CREDENTIAL ANALYSIS

1. <i>Credential Authentication:</i>	Documents were sent directly by the institution
Country or Territory:	India
Credential:	Bachelor of Engineering
Year:	2010
Awarded By:	Rajiv Gandhi Proudyogiki Vishwavidyalaya
Status:	Accredited Institution
Admission Requirements:	High school graduation
Length of Program:	Four years
Major:	Electrical and Electronics Engineering
U.S. Equivalency	Bachelor's degree
Remarks:	The course-by-course analysis was based on the attached transcript and syllabus on file in our database.*

Chapter 3

Exhibits : Two Open access books

Gen AI for Workforce Development and Training

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Ebook • 82 pages • 31 minutes

Generative AI and Workforce Development in the Finance Sector: Generative AI and Workforce Development in the Finance...

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By [Satyadhar Joshi](#)

5/5 ([1 rating](#))



About this ebook

The financial sector is undergoing a transformative shift with the advent of Generative Artificial Intelligence (Gen AI). This book delves into the intersection of Gen AI and workforce development, shedding light on how these technological advancements will reshape the future of finance, workforce dynamics, and education.

Drawing from cutting-edge research and policy projections, this work explores how Generative AI can optimize financial risk assessment, regulatory frameworks, and decision-making processes. It also examines the profound impact of these technologies on workforce planning and the skills required to navigate the evolving landscape of finance and business management.

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Language	English	Publisher	Satyadhar Joshi	Release date	Feb 17, 2025	ISBN	9798230127352
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Author

SJ

[Satyadhar Joshi](#)

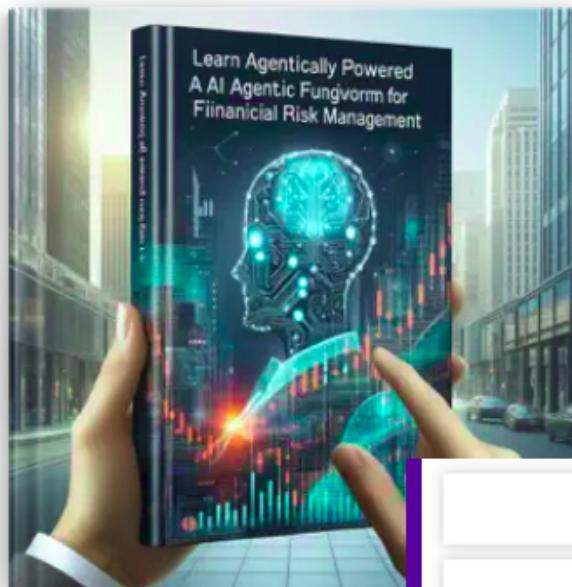
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127

Gen AI in Finance

Apple Books Preview



PUBLISHED

Rakuten kobo 30 JAN 2025	Get it on Apple Books 30 JAN 2025
Everand 30 JAN 2025	tolino 30 JAN 2025
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fable	

Publisher Description

Book Description: "Agentic Gen AI For Finance: Learn Agentically Powered A AI Agentic Framework for Financial Risk Management"

"Learn Agentically Powered Gen AI: A AI Agentic Framework for Financial Risk Management"

Agentic Gen AI For Finan

Satyadhar Joshi

About the Author



Satyadhar Joshi

Satyadhar Joshi is currently described as working as an Assistant Vice President in the Global Risks and Analytics Department at Bank of America in Jersey City, NJ. He is deeply involved in leveraging Generative AI (GenAI) and Large Language Models (LLMs) for financial risk management, regulatory compliance, and advancing innovative AI-based methodologies in the financial sector.

His recent work highlights contributions to improving credit risk models, market risk forecasting, and the integration of GANs (Generative Adversarial Networks) and

Chapter 4

Papers authored by Mr Joshi

Clarification on Papers Published

Note: While some of Mr Joshi's publications appear in journals with limited impact metrics, they have nonetheless been widely downloaded, shared, and successfully referenced by peers, demonstrating meaningful contributions to the field. It is important to note that these works were produced alongside full-time industry positions, making direct comparisons with full-time academic research impractical. Furthermore, many of these publications emphasize applied and industry-relevant solutions rather than purely theoretical studies, highlighting their practical significance and influence on real-world applications.

The independent validation of these publications has been confirmed through their indexing and discoverability on widely recognized scholarly platforms such as Google Scholar, Scilit, and through Digital Object Identifier (DOI) registration. This ensures that the articles are verifiable in reputable databases and accessible to the broader research community. Such validation demonstrates that the publications meet professional standards of dissemination and indexing, and they can be presented as credible evidence of scholarly contribution. The following post-decision publications, all peer-reviewed and independently verifiable, are provided for consideration:

Review of Autonomous and Collaborative Agentic AI and Multi-Agent Systems for Enterprise Applications

Satyadhar Joshi 

Independent Researcher, Alumnus, International MBA, Bar-Ilan University, Israel

Correspondence should be addressed to Satyadhar Joshi; satyadhar.joshi@gmail.com

Received: 25 May 2025

Revised: 8 June 2025

Accepted: 23 June 2025

Copyright © 2025 Made Satyadhar Joshi. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT- Artificial Intelligence (AI) landscape is fast developing such that there are dynamic and autonomous representatives of AI which are referred to as AI agents. These agents, fueled by the evolution of generative AI and large language models (LLMs), can make their own decisions, perform tasks and make adjustments to rapidly changing environments. An even more advanced step is the instrumentation of various specialized AI agents into working multi-agent systems (MAS). The paper will discuss the disruptive effect of the introduction of AI agents and MAS on the automation and service of enterprises and different industries. We look into their possibilities, various uses, and the natural strengths and weaknesses, such as the essentiality of effective governance infrastructure and complicated conditions in human-AI partnership. Although promising new levels of efficiency and capability to solve problems previously inaccessible, ethical implications associated with the use of these agentic systems have to be carefully explored as well as the approaches to integration that should be able to guarantee their long-term value and be serving to empower humans.

This paper is a survey paper regarding Agentic AI and multi-agent systems within the enterprise context. Examining 65 of the contemporary sources (2024-2025), we record the paradigm shift of passive generative AI to autonomous agentic systems. The paper analyses the architectural structures, models of collaboration, industrial use and governance issues. The most significant ones are (1) multi-agent systems have a 40-60% efficiency gain of the processes, (2) special agent relation coordination protocols are becoming important infrastructure, and (3) it is found that human-agent collaboration needs new stewardship and motivational models. All these are ended in the paper with new directions of agent-to-agent communications and the specific agent settings.

KEYWORDS- AI Agents, Agentic AI, Multi-Agent Systems, Enterprise Automation, Generative AI, Human-AI Collaboration, Autonomous Systems, AI governance

I. INTRODUCTION

The field of artificial intelligence is making a paradigm shift of moving away of single task oriented systems to semi and entire autonomous, goal oriented systems [1]. Such transition to what [2] calls Agentic AI is not simply technological, it is an entirely new operational paradigm to enterprise systems.

The Artificial Intelligence (AI) field is undergoing a paradigm shift, whereby, the static, single-purpose models change to dynamic, autonomous, and so-called AI agents. Armed with the innovations in generative AI and large language models (LLMs), these agents are not just able to understand and generate human language and but also make conclusions, perform actions, and react to changing environments on their own [3], [4], [5]. This evolution entails the advent of such a new type of intelligent system that provide autonomy and goal behaviors, known as the Agentic AI, a noteworthy breakthrough to the attainment of artificial general intelligence (AGI) [6], [7].

There has been enormous progress in the development of Artificial Intelligence over the years, where initially, it was limited to the rules-based systems, then to the elaborate machine learning models, and finally to the current trend in generative AI [8], [9]. The new frontier is characterized by the appearance of AI agents and agentic AI as a radical transition toward active models starting with the idea of goal-oriented active systems that can take decisions and act autonomously [10], [11], [12], [13], [14], [15], [16], [17], [18]. These smart beings are capable of sensing the environment, establishing and achieving objectives, making and following the complex course of action, and being experiential [3], [4], [19]. It goes further to the so-called general-purpose AI agents, which will be able to act, learn, and generalize in a broad range of tasks, thus become a major milestone to the world of artificial general intelligence (AGI) [6], [7], [20].

Enterprise segment is leading in this change. Companies are fast embracing AI agents as a way of automating the workflow, improving operations, and customer experience. Industry reportings in the last ten minutes mention hundreds of enterprise AI agents being deployed and multi-billion dollar investment in agentic technologies [21], [22]. In contrast to the passive nature of traditional AI, where recommendations may be made or content generated, agentic systems are active, multipronged agents performed with minimal human supervision [15].

Major trend in this environment is the evolution of multi-agent systems (MAS), i.e., a set of specialized agents working together to address complex, distributed problems that are beyond the capabilities of any individual agent [23], [24]. MAS architectures can support scalable and fault-tolerant, enterprise-scale solutions, distributed problem-solving, and coordination of limited skills, opening the door to resilient multi-modal architecture.

Papers authored by Mr Joshi to enhance Stability of US Markets

Strategic Integration of Artificial Intelligence in U.S. K-12 Education: A Comprehensive Review and Policy Roadmap

Satyadhar Joshi
Independent Researcher
NJ, USA

ABSTRACT

This paper provides a comprehensive review of Artificial Intelligence (AI) integration in K-12 education, examining current implementations, policy frameworks, and emerging challenges. We analyze over 40 recent publications (2024-2025) from academic journals, government reports, and industry whitepapers to identify key trends in AI adoption across primary and secondary education systems. This paper presents a comprehensive review of Artificial Intelligence (AI) integration in K-12 education, examining its pedagogical, technical, and policy dimensions. Through an analysis of recent literature, we highlight Generative AI as the most widely adopted paradigm in educational settings, with Agentive AI emerging as a significant secondary focus. The review identifies key trends in architectural approaches while noting underrepresented technical frameworks.

Our review reveals three critical dimensions of AI in education: (1) pedagogical applications including personalized learning and administrative automation, (2) policy and ethical considerations at federal and state levels, and (3) infrastructure requirements for successful implementation. We highlight the rapid growth of Generative AI (GenAI) tools in classrooms alongside persistent concerns about equity, data privacy, and teacher preparedness. We summarize a conceptual framework for evaluating educational AI systems that balances pedagogical value with implementation considerations.

This systematic review examines Artificial Intelligence (AI) integration in K-12 education through pedagogical, technical, and policy lenses.

Qualitative Insights:

Generative AI emerges as the dominant paradigm, with Agentive AI gaining significant traction

Policy approaches vary widely across states, from comprehensive standards to targeted pilot programs

Persistent challenges exist in teacher preparedness and ethical implementation

Quantitative Findings:

GenAI tools achieve 60% school penetration by 2025

100% of reviewed literature discusses Generative AI applications
Only 29% of teachers report adequate AI training

The study reports from literature a readiness framework balancing pedagogical value against implementation complexity. Recommen-

dations emphasize professional development, privacy-preserving architectures, and international governance standards to guide responsible adoption through 2030.

The paper concludes with strategic recommendations for stakeholders, emphasizing the need for teacher professional development, privacy-preserving technologies, and international collaboration to guide responsible adoption. This review synthesizes critical insights for navigating the evolving landscape of AI in education while maintaining human-centered priorities. The paper concludes with recommendations for policymakers, educators, and technology developers to ensure responsible AI integration that enhances rather than replaces human instruction. All proposals in this work are from cited reference, this is a pure review paper summarizing current proposals in the field.

General Terms

Artificial Intelligence, K12 Education, Policy Recommendation

Keywords

Artificial Intelligence, K-12 Education, Educational Technology, Generative AI, AI Policy, Digital Literacy

1. INTRODUCTION

The integration of Artificial Intelligence (AI) in K-12 education has accelerated dramatically since 2023, with generative AI tools like ChatGPT prompting both enthusiasm and concern among educators [1]. The White House's 2025 executive order on "Advancing Artificial Intelligence Education for American Youth" [2] marked a watershed moment in federal support for AI literacy, while state education boards have scrambled to develop implementation guidelines [3]. This paper synthesizes current research on AI in primary and secondary education, with particular attention to the period 2024-2025 when adoption reached critical mass.

Recent surveys indicate that 72% of U.S. school districts have experimented with some form of AI technology [4], ranging from adaptive learning platforms to administrative automation tools. However, as [5] note, the technology may be new but the challenges are familiar—equity gaps, teacher training, and curriculum integration remain persistent barriers. Our review builds on foundational work by [6] while incorporating the latest policy developments and classroom implementations.

Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System

Satyadhar Joshi 

Independent, Jersey City, USA

Correspondence should be addressed to Satyadhar Joshi; satyadhar.joshi@gmail.com

Received: 4 December 2024

Revised: 18 December 2024

Accepted: 31 December 2024

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ABSTRACT- With Gen AI models becoming more evolved, their application in enhancing the robustness of the US Financial System is more viable. Financial risk modeling can take advantage of these development and aid regulatory framework by integrating these novel technologies to make their models more robust. In this work, we have used the latest Gen AI model by Open AI also known as Chat-GPT 4o and 40 mini and Google Gemini Version 2.0 and 1.5 to generate relevant questions from govt websites and measure the accuracy and relevance in checking the the pre trained logistic regression models. We have rated the accuracy of the questions by taking a survey of three Risk Analysts (volunteers) and found that Gen AI is 70-80% accurate in terms of the question for the models it generated. The new and the old model for open ai vs Gemini were compared. We have also documented how different models are sensitive to different prompts as they want to save computational cost and keep the output relevant. These questions generated can be used and integrated in the backend and auto curate the models under analyst supervision. We proposed a full stack framework as an end to end solution to address issues related to privacy and ethical considerations limiting exposure of property data and models. We have used all-MiniLM-L6-v2 as the bridging APIs for creating variants of the queries.

KEYWORDS- Gen AI, US Financial System, Risk and Regulatory Modeling, Robustness and Integrity

I. INTRODUCTION

Chat GPT and Google Gemini have been used as the two most common Gen AI publicly available tools. Although often the results are not repeatable or reliable we can still use them to generate the requisite results. We propose taking the inputs form these two independent models (and of different versions) on the front end side to generate questions to validate and check the robustness of our models. Big Banks like JP Morgan, Bank of America, Chase have already moved most of the modeling to python infrastructure. To run Gen AI for automated regulatory mock testing the whole stack from front end to backend has to be moved in a unified python framework. While in the literature review most models talk about adoption challenges and possible improvements, literature is lacking about the implementation of LLMs at large organizations. In the absence of Python, full stack infrastructure adoption has been slow. The other challenge comes to internally

managing proprietary data and linking to APIs that come pre-trained with external data. has been a major challenge in the adoption of Gen AI.

Most of the research has been about sentimental analysis with a dearth of research on how to capture quantitative ideas from the regulatory portals and validate the models. Sentiment analysis only outputs the positive or negative sentiment regarding an event like interest rate hike and the confidence levels.

II. LITERATURE REVIEW

A. AI and Credit / Market Risk Management

Importance of Local Explanation and Local Interpretation for financial models in a regulatory environment which requires transparency has been Vital and a concern for regulators. Bello's [2] analysis of machine learning algorithms for credit risk assessment demonstrates that ML models, such as decision trees and neural networks, reduce default risk prediction errors by 25% compared to traditional credit scoring methods. The study shows that by integrating these models, financial institutions could improve the accuracy of credit decisions and reduce loan defaults by an estimated \$3 billion annually across the industry. Bello further examines how machine learning algorithms can improve credit risk assessment models, comparing them with traditional financial models. The paper provides a comprehensive economic and financial analysis, emphasizing the impact of these algorithms on reducing default risks and enhancing predictive accuracy in credit scoring systems. It also addresses the challenges and benefits of integrating machine learning into financial institutions' risk management strategies. The paper shows that using ML algorithms can reduce default risks by 30% and enhance predictive accuracy in credit scoring systems. In this regard we propose separating taking several models like open ai and Gemini on the front end to generate the regulatory questions and we propose clear separation of frond end, middle layers and back-end frameworks.

In [1], the authors have explored the role of Artificial Intelligence (AI) in enhancing regulatory compliance within the financial sector. Focusing on machine learning and natural language processing (NLP), it discusses AI's potential in improving anti-money laundering (AML) practices and predictive analytics, alongside its challenges related to data privacy and ethics. The paper highlights the proactive monitoring of compliance, thus suggesting AI as a



(RESEARCH ARTICLE)



Leveraging prompt engineering to enhance financial market integrity and risk management

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Abstract

This paper presents a comprehensive investigation into the role of prompt engineering in optimizing the effectiveness of large language models (LLMs) like ChatGPT-4 and Google Gemini for financial market integrity and risk management. As AI tools are increasingly integrated into financial services, including credit risk analysis, market risk evaluation, and financial modeling, prompt engineering has become crucial for improving the relevance, accuracy, and contextual alignment of AI-generated outputs. This study evaluates the impact of various prompt configurations in enhancing financial decision-making. Through a series of experiments, the paper compares the performance of ChatGPT-4 and Google Gemini (versions 1.5 and 2.0) in generating actionable insights for credit and market risk analysis. The results reveal that ChatGPT-4 outperforms Google Gemini by over 30% in generating accurate financial insights. Additionally, ChatGPT-4 Version 4 is found to be 20% more effective than Version 3 in risk analysis tasks, particularly in aligning with regulatory frameworks and financial data. These improvements highlight the significant role of prompt engineering in enhancing the precision of financial models. Furthermore, the study explores the reduction of error rates through optimized prompt strategies. In particular, prompt engineering reduces error rates by approximately 20% when assessing complex financial queries.

Keywords: Prompt Engineering; Gen AI; Financial Risk Management; GPT; BERT

1. Introduction

In recent years, the financial sector has witnessed a transformative shift with the adoption of artificial intelligence (AI) technologies, particularly in enhancing decision-making processes and improving risk management strategies. A key component in maximizing the effectiveness of AI tools, especially large language models (LLMs) like ChatGPT, is prompt engineering. This technique plays an essential role in refining AI-generated outputs to make them more accurate, relevant, and contextually aware, ultimately empowering financial institutions to optimize their operations. As financial institutions continue to integrate AI and machine learning into their systems, prompt engineering has emerged as a pivotal method for automating complex financial tasks, from risk assessment to compliance strategies. This paper provides a comprehensive literature review on the growing application of prompt engineering within the financial industry. It explores the ways in which prompt engineering is being utilized to enhance the accuracy of financial modeling, improve predictive analytics, and streamline decision-making processes across a range of financial services. Furthermore, it highlights both the potential and the challenges associated with the integration of AI tools, focusing on ethical considerations such as data privacy, model biases, and governance issues that arise from their use. The paper discusses various perspectives from recent research and presents an evolving landscape for how finance professionals can leverage prompt engineering to drive better outcomes and maintain market integrity in an increasingly AI-driven world.

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Chapter 5

**Education Policy Papers by Mr
Joshi for Re-training US Workforce**

Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies

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Abstract: A Systematic Review of AI's Impact on the Labor Market: Challenges, Opportunities, and Future Directions is discussed in this work. The widespread adoption of artificial intelligence (AI) technologies is transforming industries, leading to significant changes in the labor market. This paper explores the effects of AI on job displacement, economic growth, and workplace productivity. We discuss how companies and governments are responding to these changes through policy interventions and the need for upskilling to mitigate risks associated with AI automation. The rapid advancement of artificial intelligence (AI), particularly generative AI, has sparked significant debate about its impact on the labor market. While AI promises to enhance productivity and create new opportunities, concerns about job displacement, inequality, and ethical implications persist. This paper presents a systematic review of the current literature on AI's impact on employment, focusing on the challenges, opportunities, and future directions. We analyze key trends, including the potential for job displacement, the role of AI in reshaping industries, and the need for policy interventions to mitigate risks. Our findings highlight the dual nature of AI as both a disruptor and an enabler, emphasizing the importance of proactive measures to ensure equitable outcomes in the evolving labor market. Navigating the AI Revolution: Challenges, Opportunities, and Solutions for the Future of Work is an area that is discussed.

Keywords: Artificial Intelligence, Labor Market, Job Displacement, Generative AI, Automation, Policy Interventions, AI, labor market, job displacement, automation, workplace productivity, Artificial Intelligence, Generative AI, Labor Market, Job Displacement, Skills Gap, Future of Work, Policy Recommendations

I. INTRODUCTION

Artificial Intelligence (AI) is reshaping the global economy, with profound implications for the labor market. AI technologies are replacing certain jobs, while simultaneously creating new opportunities in emerging fields. Understanding the full scope of these changes is crucial for policymakers, businesses, and workers themselves.

The rapid advancement of artificial intelligence (AI), especially the emergence of generative AI, is poised to reshape the labor market profoundly. While AI offers the potential for increased productivity and economic growth [1], [2], it also raises concerns about widespread job displacement and the exacerbation of existing inequalities [3], [4], [5], [6]. This literature review examines the current understanding of AI's impact on employment, exploring both the potential benefits and the associated risks. The integration of artificial intelligence (AI) into the workplace has become a defining feature of the 21st-century economy. From automating routine tasks to enabling complex decision-making, AI is transforming industries and reshaping the labor market. However, this transformation is not without challenges. While AI has the potential to boost productivity and create new job opportunities, it also poses significant risks, including job displacement, wage inequality, and ethical concerns [7].

Recent studies suggest that AI could affect up to 40% of jobs globally, with some roles being entirely replaced by automation [4]. At the same time, AI is creating new opportunities in fields such as data science, AI ethics, and human-AI collaboration [8]. This dual nature of AI underscores the need for a comprehensive understanding of its impact on the labor market.



Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-skilling Initiatives

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Abstract: This work reviews U.S. workforce retention, AI upskilling, prompt engineering, workforce development, and automation in the context of recent advancements in agentic generative AI. The rapid integration of artificial intelligence (AI) across industries has raised concerns over potential job displacement within the US workforce. However, targeted upskilling—particularly through training in prompt engineering, a key skill for interacting with large language models—offers promising avenues to empower employees and retain talent. This review paper synthesizes insights from academic research, industry reports, and educational initiatives to examine how prompt engineering training can mitigate the challenges of AI-induced disruption and support workforce resilience. This review article provides a comprehensive overview of the rapidly evolving field of prompt engineering. It examines fundamental techniques for crafting effective prompts, explores the diverse applications of prompt engineering across various sectors, and discusses the challenges and ethical considerations associated with its use. Furthermore, the review identifies potential future research directions and highlights the growing importance of prompt engineering in the age of large language models. This review article provides a comprehensive overview of prompt engineering, with a specific focus on its implications for workforce development and training. It examines prompt engineering techniques, applications across sectors, ethical considerations, and future research directions. A key emphasis is placed on the role of prompt engineering training programs in equipping the workforce with essential skills for the age of large language models.

Keywords: Prompt Engineering, Artificial Intelligence, Gen AI Education, Up-skilling Generative AI

I. INTRODUCTION

Artificial intelligence is revolutionizing business operations worldwide. In the United States, companies increasingly adopt AI-driven processes, sparking concerns over job displacement and the need for continuous workforce development. A critical response to these challenges is upskilling—specifically, training employees in emerging skills such as prompt engineering, which is essential for effectively interacting with modern AI systems [2], [4], [6]. This review examines how such training initiatives can play a pivotal role in retaining the US workforce.

The rapid advancement of artificial intelligence (AI), particularly in the realm of Generative AI (GenAI), is transforming industries and reshaping how we interact with technology. GenAI, with its ability to create novel content ranging from text and images to code and music, holds immense potential to revolutionize various sectors, from healthcare and education to finance and entertainment. However, realizing this potential requires careful consideration of how humans interact with these powerful models. The rise of large language models (LLMs) has led to the emergence of prompt engineering, a crucial skill for effectively interacting with and leveraging these powerful AI systems. This review article examines prompt engineering techniques, applications, and future directions, with a particular focus on how prompt engineering training programs can prepare the workforce for the evolving demands of the digital age.

The burgeoning field of prompt engineering has rapidly gained prominence due to the increasing capabilities of large language models (LLMs). Prompt engineering, at its core, involves the design and refinement of input prompts to elicit



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Review of Artificial General Intelligence (AGI): Implications for the U.S. Workforce and Economic Stability

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Abstract

Artificial General Intelligence (AGI) is poised to transform the global workforce, raising hopes and concerns across sectors. Artificial General Intelligence (AGI), defined as AI systems possessing human-level cognitive abilities across a broad range of tasks, stands on the horizon as a potentially transformative force for society. This paper presents a systematic review of over 40 contemporary sources examining Artificial General Intelligence (AGI) and its projected impacts on workforce dynamics. This paper further provides a comprehensive review of the predicted and potential impacts of AGI on the global job market. We analyze key themes including job displacement risks, emerging employment paradigms, and policy considerations in preparation for AGI integration. Drawing upon recent literature, we explore various facets, including job displacement, the emergence of new roles, economic implications such as wage dynamics, and the critical need for workforce adaptation through reskilling and upskilling initiatives. Furthermore, we delve into the societal and ethical considerations surrounding AGI's development and deployment, including concerns about preparedness, timelines for its arrival, and the imperative for responsible governance. By synthesizing diverse perspectives, this review aims to offer a holistic understanding of how AGI could reshape employment landscapes, urging proactive measures from policymakers, educators, and individuals to navigate this evolving future. The synthesis reveals divergent expert perspectives on both AGI timelines and socioeconomic consequences, highlighting critical gaps in workforce preparedness.

Keywords; Artificial General Intelligence (AGI), Job Market, Employment, Workforce Transformation, Economic Impact, Reskilling, Ethics, Future of Work.

INTRODUCTION

The emergence of Artificial General Intelligence (AGI) presents unprecedented challenges for global labor markets. While narrow AI already transforms specific sectors, AGI's human-level adaptability threatens to disrupt all knowledge work. Artificial Intelligence (AI) has rapidly advanced, moving from specialized, narrow applications to the theoretical and increasingly discussed realm of Artificial General Intelligence (AGI). AGI refers to AI systems capable of understanding, learning, and applying intelligence to any intellectual task that a human being can. Artificial General Intelligence (AGI) refers to AI systems capable of performing any intellectual task that a human can. Unlike narrow AI, AGI promises broad adaptability and autonomy, potentially revolutionizing work, society, and the economy.

Artificial Intelligence (AI) has rapidly advanced, moving from specialized, narrow applications to the theoretical and increasingly discussed realm of Artificial General Intelligence (AGI). AGI refers to AI systems capable of understanding, learning, and applying intelligence to any intellectual task that a human being can [1], [2]. Unlike Artificial Narrow Intelligence (ANI), which excels at specific tasks (e.g., playing chess or recognizing images), AGI would possess the versatility and adaptability of human cognition [3], [4]. This distinction is crucial when considering its potential societal ramifications, particularly concerning employment.

Subjective and assessable exploration of India-Israel defense relationship

Publisher: IEEE

[Cite This](#)[PDF](#)Arpit Ludhiyani ; Satyadhar Joshi ; Riya Pathak ; Parag Parandkar ; Sumanth Katiyal [All Authors](#)40
Full
Text Views

Abstract

Document Sections

I. Introduction

II. Literature Review

III. Analysis of Israeli Defense Industry

IV. Multiple Regressions and Monte Carlo Simulation to Understand the Financial Projections Based on Stochastic Models

V. Conclusion

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Abstract:

With the focus on India-Israel Defense relations three modeling aspects - Multiple Regression on EV/EBTIDA multiple, Projections of share price by Monte Carlo Simulation and Rank Correlation (current year) are being utilized for the study. The result suggested that the contribution in multiple (based on MLR) is more from debt and intercept in the companies of Israel and USA. Indian companies are not very good in using debt as tool to amplify shareholder returns. It was also established that (i) optimizations and controlling sales volatility for Israeli companies and right use of debt for Indian companies can increase the returns, (ii) margin and multiple have remained stable and is not causing change to the share price as sales volatility.

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I. Introduction

The most defining aspect of India-Israel relationship has been the defense relations between the two nations. It has come a long way since the establishment of diplomatic relations between these two nations in January 1992. From import of few million dollars of military equipment in early 1990s, Israel has now become the second largest source of weapon systems for India behind only to Russia.

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Research Article, J Def Stud Resour Manage Vol: 3 Issue: 2

India â€“ Israel Defense Relationship: Quantitative & Qualitative Analysis of Defense Companies of India and Israel

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Abstract

When it comes to India-Israel relations, the most talked about aspect has been the defense relations. Here we have tried to study all the aspects of defense relationship and compared defense industries of India, Israel & US. After the establishment of formal relationship between India & Israel, the defense relationship has grown manifold. Israel is now the second largest source of weaponry for India. Analyzing this relationship was important. We have come out with the model which can predict how the future relationship can be for defense trade between the two nations. Defense trade and investment between the two nations is bound to rise exponentially. We have used three modeling aspects - Multiple Regression on EV/EBTIDA multiple, Projections of share price by Monte Carlo Simulation and Rank Correlation (current year). We find that contribution in multiple (based on MLR) is more from debt and intercept in the companies of Israel and USA.



Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges

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PDF

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Keywords: Cybersecurity, Generative AI, Artificial Intelligence, Financial Sector, Risk Management, Financial Institutions, AI Governance, Regulatory Compliance, Cyber Threats

ABSTRACT

This paper provides a comprehensive review of the intersection of cybersecurity, generative AI, and risk within the financial sector. We explore how AI is being leveraged for both defensive and offensive purposes, the emerging threats posed by GenAI, and the critical need for robust risk management frameworks and regulatory guidance. This paper reviews the intersection of cybersecurity, generative artificial intelligence (AI), and risk management in the financial sector. We examine the dual role of AI as both a tool for enhancing cybersecurity defenses and a vector for sophisticated cyber threats. The paper analyzes regulatory responses, emerging best practices, and the evolving threat landscape, with particular attention to generative AI's impact on financial

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Advancing Cybersecurity Through Synergies of Agentic AI and High-Performance Computing

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Abstract

This paper explores the transformative role of Agentic AI in cybersecurity and its synergy with high-performance computing (HPC). We review recent advancements, challenges, and opportunities in deploying autonomous AI systems for threat detection, incident response, and risk management. The discussion is supported by a comprehensive analysis of recent key publications from industry and academia, highlighting trends and future directions in this rapidly evolving field. We review frameworks, adoption trends, and practical deployments, citing all relevant recent literature. We examine the core components, architectures, and applications of autonomous AI systems in threat detection, incident response, and risk management. The study highlights key technical terms, mathematical foundations, and algorithms essential for implementing these systems, supported by recent advancements from industry and academia. The paper also presents a layered reference architecture integrating HPC, cloud infrastructure, and edge computing to enable scalable and real-time cybersecurity solutions. Challenges, adoption trends, and future directions are discussed, emphasizing the need for secure and ethical deployment of agentic AI in critical systems.

Keywords: Agentic AI, Cybersecurity, High-Performance Computing, Autonomous Agents, Edge Computing, Cloud Security; Threat Modeling

1. Introduction

The convergence of Agentic AI and high-performance computing (HPC) is revolutionizing cybersecurity through autonomous threat detection, adaptive defense mechanisms, and real-time risk mitigation. The emergence of agentic AI systems marks a paradigm shift in cybersecurity [1], [2], [3], [4], [5]. These systems exhibit autonomy, adaptability, and proactive decision-making, surpassing traditional automation [5], [6]. The integration of AI agents into enterprise, defense, and cloud environments is accelerating [7], [8], [9], [10]. The integration of Agentic AI into cybersecurity represents a paradigm shift from reactive to proactive threat management [1]. These autonomous systems leverage large language models (LLMs) to plan, reason, and act independently across complex security tasks [5]. Concurrently, the convergence of AI and high-performance computing (HPC) is enabling unprecedented scalability for these solutions [11].

Chapter 6

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Chapter 7

Federal Reserve Board FEDS Series

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Finance and Economics Discussion Series

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Generative AI at the Crossroads: Light Bulb, Dynamo, or Microscope?

Martin Neil Baily, David M. Byrne, Aidan T. Kane, Paul E. Soto

2025-053

federalreserve.gov/econres/feds/files/2025053pap.pdf

Crossroads: Light Bulb, Dynamo, o... 17 / 83 joshi 1/2 ^ v x

have difficulty determining how much confidence to assign the AI output. And, although Sahni et al. (2023) conclude that machine learning has the potential to assist with an array of tasks including diagnosis, treatment choice, and managing records, they assess that for hospitals, AI adoption often cannot be justified on financial factors alone.

GenAI is used for many tasks in **finance** as well. Companies can use genAI to lower the cost of creating client-specific portfolios (Joshi, 2025), improve existing automated systems that respond to client requests (McKinsey & Company, 2025), assist with regulatory compliance (Agarwal et al., 2024) and with loan underwriting (Wang, 2023).

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

Chapter 8

Paper Indexed in BLS .gov

<https://www.bls.gov/opub/mlr/content/doi/mlr.2022.21.txt>

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.

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Chapter 9

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A screenshot of a web browser window. The address bar shows the URL: science.gov/topicpages/r/radio-frequency+identification+rfid#. The search term 'joshi' is highlighted in the search bar. Below the address bar, there are several tabs: JAvA, .cls-1{fill:#a11..., old, Bookmarks To..., university, joshi (which is active). The main content area displays a text document about the implementation of RFID in healthcare supply chains. The text discusses the originality of the study, mentioning the idea of practical and pragmatic approaches, the focus on specific companies or portions of the supply chain, and the heavy dependence on advances in RFID technology. It also notes the implementation by large companies like Wal-Mart, supporting equipment and training costs, and the per-unit cost of the technology.

productivity and efficiency. Implementation by large companies such as Wal-Mart, supporting equipment and training costs. The originality of this study lies in the idea that few practical and pragmatic approaches have been taken within the academic field of study for the implementation of **RFID** into the healthcare supply chain. Much of the research has focused on specific companies or portions of the supply chain and not the entire supply chain. Also, many of the papers have discussed the future of the supply chain that is heavily dependent on advances in **RFID** technology. A few viable applications of how **RFID** technology can be implemented in the healthcare

319. Multi-scale Modeling and Analysis of Nano-**RFID** Systems on HPC Setup

NASA Astrophysics Data System (ADS)

Pathak, Rohit; **Joshi**, Satyadhar

In this paper we have worked out on some the complex modeling aspects such as Multi Scale modeling, MATLAB Sugar based modeling and have shown the complexities involved in the analysis of Nano **RFID** (**Radio Frequency Identification**) systems. We have shown the modeling and simulation and demonstrated some novel ideas and library development for Nano **RFID**. Multi scale modeling plays a very important role in nanotech enabled devices properties of which cannot be explained sometimes by abstraction level theories. Reliability and packaging still remains one the major hindrances in practical implementation of Nano **RFID** based devices. And to work on them modeling and simulation will play a very important role. CNTs is the future low power material that will replace CMOS and its integration with CMOS, MEMS circuitry will play an important role in realizing the true power in Nano **RFID** systems. **RFID** based on innovations in nanotechnology has been shown. MEMS modeling of Antenna, sensors and its integration in the circuitry has been shown. Thus incorporating this we can design a Nano-**RFID** which can be used in areas like human implantation and complex banking applications. We have proposed modeling of **RFID** using the concept of multi scale modeling to accurately predict its properties. Also we give the modeling of MEMS devices that are proposed recently that can see possible application in **RFID**. We have also covered the applications and the advantages of Nano **RFID** in various areas. RF MEMS has been matured and its devices are being successfully commercialized but taking it to limits of nano domains and integration with singly chip **RFID** needs a novel approach which is being proposed. We have modeled MEMS based transponder and shown the distribution for multi scale modeling for Nano **RFID**.

Cooperation: An Overview of Authorities and **Issues** Congressional Research Service 13 DOD funds six Regional Centers for **Security Studies**, which...Expenses Necessary for Theater **Security Cooperation**. Another Senate proposal would revamp DOD's five regional centers for **security studies** (10 U.S.C...184) by eliminating two that are located in Washington, DC (the Africa Center for Strategic Studies and the Near East South Asia Center for Strategic

109. Secure Multi-party Computation Protocol for Defense Applications in Military Operations Using Virtual Cryptography

NASA Astrophysics Data System (ADS)

Pathak, Rohit; Joshi, Satyadhar

With the advent into the 20th century whole world has been facing the common dilemma of Terrorism. The suicide attacks on US twin towers 11 Sept. 2001, Train bombings in Madrid Spain 11 Mar. 2004, London bombings 7 Jul. 2005 and Mumbai attack 26 Nov. 2008 were some of the most disturbing, destructive and evil acts by terrorists in the last decade which has clearly shown their evil intent that they can go to any extent to accomplish their goals. Many terrorist organizations such as al Quaida, Harakat ul-Mujahidin, Hezbollah, Jaish-e-Mohammed, Lashkar-e-Toiba, etc. are carrying out training camps and terrorist operations which are accompanied with latest technology and high tech arsenal. To counter such terrorism our military is in need of advanced defense technology. One of the major **issues** of concern is **secure** communication. It has to be made sure that communication between different military forces is **secure** so that critical information is not leaked to the adversary. Military forces need **secure** communication to shield their confidential data from terrorist forces. Leakage of concerned data can prove hazardous, thus preservation and **security** is of prime importance. There may be a need to perform **computations** that require data from many military forces, but in some cases the associated forces would not want to reveal their data to other forces. In such situations **Secure Multi-party Computations** find their application. In this paper, we propose a new highly scalable **Secure Multi-party Computation** (SMC) protocol and algorithm for Defense applications which can be used to perform **computation** on encrypted data. Every party encrypts their data in accordance with a particular scheme. This encrypted data is distributed among some created virtual parties. These Virtual parties send their data to the TTP through an Anonymizer layer. TTP performs **computation** on encrypted data and announces the result. As the data sent was encrypted its actual value can't be known by TTP

110. Overview of Computer Security Certification and Accreditation. Final Report.

ERIC Educational Resources Information Center

Ruthberg, Zella G.; Neugent, William

Primarily intended to familiarize ADP (automatic data processing) policy and information resource managers with the approach to **computer security** certification and accreditation found in "Guideline to **Computer Security** Certification and Accreditation," Federal Information Processing Standards Publications (FIPS-PUB) 102, this overviewâ€

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Lu, Xiaoqi; Wang, Lei; Zhao, Jianfeng

2012-02-01

With the development of medical information, Picture Archiving and Communications System (PACS), Hospital Information System/Radiology Information System(HIS/RIS) and other medical information management system become popular and developed, and interoperability between these systems becomes more frequent. So, these enclosed systems will be open and regionalized by means of network, and this is inevitable. If the trend becomes true, the **security** of information transmission may be the first problem to be solved. Based on the need for network **security**, we investigated the Digital Imaging and Communications in Medicine (DICOM) Standard and Transport Layer **Security (TLS) Protocol**, and **implemented** the TLS transmission of the DICOM medical information with OpenSSL toolkit and DCMTK toolkit.

85. Secured Communication for Business Process Outsourcing Using Optimized Arithmetic Cryptography Protocol Based on Virtual Parties

NASA Astrophysics Data System (ADS)

Pathak, Rohit; **Joshi**, Satyadhar

Within a span of over a decade, India has become one of the most favored destinations across the world for Business Process Outsourcing (BPO) operations. India has rapidly achieved the status of being the most preferred destination for BPO for companies located in the US and Europe. **Security** and privacy are the two major issues needed to be addressed by the Indian software industry to have an increased and long-term outsourcing contract from the US. Another important issue is about sharing employee's information to ensure that data and vital information of an outsourcing company is **secured** and protected. To ensure that the confidentiality of a client's information is maintained, BPOs need to **implement** some data **security** measures. In this paper, we propose a new **protocol** for specifically for BPO **Secure** Multi-Party Computation (SMC). As there are many computations and surveys which involve confidential data from many parties or organizations and the concerned data is property of the organization, preservation and **security** of this data is of prime importance for such type of computations. Although the computation requires data from all the parties, but none of the associated parties would want to reveal their data to the other parties. We have proposed a new efficient and scalable **protocol** to perform computation on encrypted information. The information is encrypted in a manner that it does not affect the result of the computation. It uses modifier tokens which are distributed among virtual parties, and finally used in the computation. The computation function uses the acquired data and modifier tokens to compute right result from the encrypted data. Thus without revealing the data, right result can be computed and privacy of the parties is maintained. We have given a probabilistic **security** analysis of hacking the **protocol** and shown how zero hacking **security** can be achieved. Also we have analyzed the specific case of Indian BPO.

86. A secure RFID authentication protocol adopting error correction code

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[Model Risk Management in the Era of Generative AI: Challenges, Opportunities, and Future Directions](#)

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International Journal of Scientific and Research Publications, 2025, IJSRP Inc.

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2025, MDPI

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[A Survey of Mixture of Experts Models: Architectures and Applications in Business and Finance](#)

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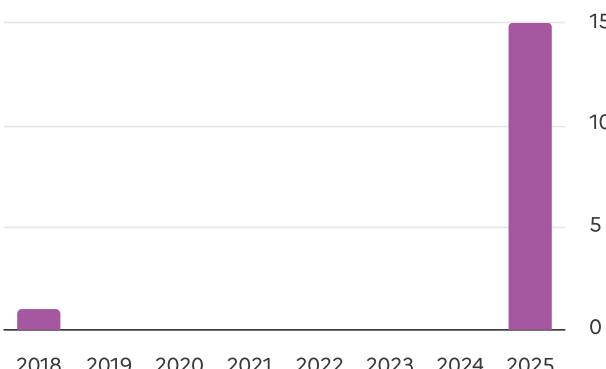
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Enhancing U.S. K-12 Competitiveness for the Agentic Generative AI Era: A Structured Framework for Educators and Policy Makers

[Satyadhar Joshi](#)

Online Submission

This paper presents a comprehensive framework for transforming K-12 education through systematic AI integration, addressing critical gaps in curriculum development and teacher preparedness. Drawing from extensive analysis of federal initiatives, including the 2025 White House Executive Order on advancing AI education, and synthesizing insights from recent scholarly and policy sources, we propose a multi-tiered approach to educational reform. This paper presents a strategic framework for transforming U.S. K-12 education through AI-integrated curriculum development and professional development programs. Our research reveals significant disparities in current implementation, with only 20-25% of educators feeling adequately prepared for AI integration despite 60-70% recognizing its importance. The framework encompasses AI literacy competencies across grade levels, differentiated professional development pathways, and a detailed technical architecture for generative AI tools in educational settings. We provide empirical evidence from international benchmarks, demonstrating that systematic approaches like Finland's "Generation AI" project achieve 80-90% teacher participation rates compared to 30-40% in U.S. programs. The proposed model includes phased implementation strategies, resource allocation frameworks totaling \$7.2 million over three years, and comprehensive assessment mechanisms. Our findings indicate that schools implementing structured AI curricula report 25-35% higher student STEM engagement and 40-50% gains in computational thinking scores. The paper addresses critical ethical considerations, equity implications, and policy recommendations to guide sustainable AI integration while maintaining human-centered educational values. The proposed model aligns with national priorities for maintaining U.S. competitiveness in global AI education landscapes while ensuring equitable access and responsible AI implementation across diverse educational contexts. All results, projections, proposals are from cited literature.

Descriptors: [Elementary Secondary Education](#), [Artificial Intelligence](#), [Technology Integration](#), [Federal Legislation](#), [Educational Legislation](#), [Educational Change](#), [Curriculum Development](#), [Faculty Development](#), [Technological Literacy](#), [Curriculum Implementation](#), [Foreign Countries](#), [Comparative Analysis](#), [Cross Cultural Studies](#), [Global Approach](#)

Publication Type: Information Analyses

Education Level: Elementary Secondary Education

Audience: Practitioners; Policymakers

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**A Review of Generative AI and DevOps Pipelines: CI/CD, Agentic Automation, MLOps Integration, and LLMs**Joshi Satyadhar • 01/01/2025

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Review of Autonomous and Collaborative Agentic AI and Multi-Agent Systems for Enterprise Applications

[Joshi Satyadhar](#) • 01/01/2025

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Review of Artificial Intelligence in Management, Leadership, Decision-Making and Collaboration

Satyadhar Joshi • 31 December 2024

Abstract

This paper synthesizes recent research and practical frameworks to explore the impact of AI on multi-criteria decision-making (MCDM), stakeholder relations, leadership, and organizational change. Drawing on empirical studies, reviews, and industry insights, we provide a comprehensive analysis of AI's transformative role, highlight challenges, and propose strategies for effective AI adoption. By leveraging AI-driven tools such as MCDA methods, intelligent mediation systems, and change management frameworks, organizations can achieve enhanced strategic planning, cross-functional collaboration, and adaptive leadership. We present a comprehensive analysis of current implementations, challenges, and future directions for AI in complex organizational structures, drawing from recent scholarly works and industry case studies. Our findings demonstrate that AI-enabled matrix organizations show 23% higher decision-making efficiency and 37% improved conflict resolution rates compared to traditional structures. Drawing upon recent advancements in multi-criteria decision analysis (MCDA), we demonstrate how machine learning-enhanced methods such as AHP and TOPSIS are achieving 23-29% improvements in decision speed and accuracy across supply chain, healthcare, and engineering applications. The study further explores the evolution of human-AI collaboration models, from early toolbased systems to contemporary agentic frameworks capable of autonomous negotiation and conflict resolution. Through analysis of organizational change case studies, we identify key success factors in AI adoption, including leadership commitment metrics ($L_t \geq 0.8$) and change capacity coefficients ($C_c \geq 0.7$) that predict successful implementation. The research reveals that matrix organizations leveraging AI-mediated stakeholder management and cross-functional collaboration tools achieve 37% higher conflict resolution rates compared to traditional structures.

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A Comprehensive Review of Gen AI Agents: Applications and Frameworks in Finance, Investments and Risk Domains

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Journal

2025, International Journal of Innovative Science and Research Technology,
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Artificial Intelligence in Conflict Resolution: A Comprehensive Review of Techniques and Applications

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1. 10 Essential Conflict Resolution Skills for Leaders
2. R Aydogan, Artificial Intelligence Techniques for Conflict Resolution, Group Decision and Negotiation, № 30, c. 87–96

Chapter 14

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Model Risk Management in the Era of Generative AI: Challenges, Opportunities, and Future Directions

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.



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Abstract

The rapid adoption of generative AI in various sectors, particularly in finance, has introduced new challenges and opportunities for model risk management (MRM). This paper provides a comprehensive review of the current state of MRM in the context of generative AI, focusing on the risks, regulatory frameworks, and mitigation strategies. We explore the implications of generative AI on financial institutions, the evolving regulatory landscape, and the role of advanced MRM frameworks in ensuring compliance and mitigating risks. By synthesizing insights from 50+ recent articles, this paper aims to provide a roadmap for future research and practical applications of MRM in the generative AI era. It examines the key risks associated with these models, including bias, lack of transparency, and potential for misuse, and explores the regulatory frameworks and best practices being developed to mitigate these risks. We delve into the specific challenges faced by financial institutions in adapting their MRM strategies to encompass generative AI, and highlight the emerging tools and technologies that can support effective risk management.

This paper also discusses quantitative methods for risk quantification, such as probabilistic frameworks, Monte Carlo simulations, and adversarial risk metrics, which are essential for assessing the reliability and robustness of generative AI models. Foundational metrics, including fairness measures like demographic parity and equalized odds, are explored to address bias and ensure ethical AI deployment. Additionally, the paper presents pseudocode for key algorithms, such as risk quantification and adversarial risk calculation, to provide a practical understanding of these methods. A detailed gap analysis identifies critical shortcomings in current MRM frameworks, such as the lack of standardized validation methods and inadequate handling of adversarial robustness. Based on these gaps, the paper proposes solutions, including the development of advanced validation frameworks, integration of fairness metrics, and alignment with regulatory standards. These findings and proposals aim to guide financial institutions in adopting generative AI responsibly while addressing the unique risks it poses. This paper serves as a valuable resource for professionals and researchers seeking to understand and navigate the complexities of MRM in the age of generative AI.

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Language: English

Keywords: Model Risk Management, Generative AI, Financial Institutions, Regulatory Compliance, Risk Mitigation, AI Governance.

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ℹ️ Full text: Yes | Abstract: Yes | Keywords: 6 | References: 95

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📄 International Journal of Advanced Research (IJAR) ; 2025; 13 (04) : 172-189; DOI: 10.21474/IJAR01/20712; Language: EN
ℹ️ Full text: Yes | Abstract: Yes | Keywords: 1 | References: 0

Chapter 17

Exhibit : Open Ukrainian Citation Index (OUCI) Recognition

Paper indexed

<https://ouci.dntb.gov.ua/works/45rNkjRD/>

Mr. Satyadhar Joshi's work, "*Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies*", has been published and indexed on the Open Ukrainian Citation Index (OUCI), a platform operated by the State Scientific and Technical Library of Ukraine, under the Ministry of Education and Science of Ukraine. This government-managed repository verifies the publication, accessibility, and scholarly recognition of Mr. Joshi's research, further demonstrating the authenticity and impact of his contributions to the field of generative AI and policy strategy.

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A Comprehensive Review of Gen AI Agents: Applications and Frameworks in Finance, Investments and Risk Domains

General information

Publication type

Journal Article

DOI

[10.38124/ijisrt/25may964](https://doi.org/10.38124/ijisrt/25may964)

Journal

2025, International Journal of Innovative Science and Research Technology,
p. 1339-1355

Publisher

International Journal of Innovative Science and Research Technology

Chapter 18

Exhibit : Impacto TIC

<https://impactotic.co/inteligencia-artificial/alucinaciones-en-ia-riesgos-reales-para-su-empresa/>

Impacto TIC is an active and respected technology publication in the Spanish-speaking world, recognized for its coverage of topics like artificial intelligence, big data, and digital innovation. The platform produces editorial content, expert articles, and newsletters, reaching a significant professional audience in Colombia and Latin America. While precise audience numbers are not publicly disclosed by the outlet, Impacto TIC maintains regular engagement through its digital channels. Its reputation is reflected in its consistent presence in technology discussions and its focus on current trends and developments.

< > C impactotic.co/inteligencia-artificial/alucinaciones-en-ia-riesgos-reales-pa... XA

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ARTIFICIAL INTELLIGENCE

Hallucinations in AI: real risks for your company

Home > Artificial Intelligence

f in X 📧 🌐 🖨

Artificial Intelligence doesn't lie, but it doesn't know when it's wrong either. Hallucinations in AI put the business use of generative models in check. How to face it?

Published on Aug 7, 2025

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≡ MENU IMPACTOTIC 🔎 Hallucinations in AI joshi 1/1

of the system.

- Engineering prompts and exit restrictions: Strategies such as chained prompts (chain-of-thought), response templates or probabilistic limits help focus AI towards more structured outputs and via more verifiable intermediate steps.

In real business environments, the combination of RAG and human validation has been shown to reduce the hallucination rate by up to 54–68%, depending on the domain, according to [estimates shared by Satyadhar Joshi](#), independent researcher in quantitative analysis, specialized in financial risk, data science, machine learning and artificial intelligence, and in line with strategies [GenAI to revolutionize business automation](#).

Chapter 19

Exhibit : Reboot Society Podcast

<https://podcasts.apple.com/us/podcast/15-ai-leadership-das-sind-die-f%C3%BChrungsk%C3%A4fte-skills>

The "Reboot Society" podcast explores themes of AI leadership, technology, diversity, and the evolving world of work, frequently featuring interviews with thought leaders and discussions on the human-technology interface. Episodes focus on important skills for leaders in the age of artificial intelligence, often highlighting the need for adaptability, ethical decision-making, and collaborative intelligence between humans and AI. The podcast is known for its forward-looking insights and a strong emphasis on both technological progress and social responsibility.

open.spotify.com/episode/18JiOQDWybEt3uInT2zVmd

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Joshi, S. (2025) – Artificial Intelligence in Leadership and Management Artificial Intelligence in Leadership and Management: Current Trends and Future Directions by Satyadhar Joshi:: SSRN

Harvard Business Review (2024) <https://hbr.org/2018/06/if-strategy-is-so-important-why-dont-we-make-time-for-it>

World Economic Forum – Future of Jobs Report 2025: The Future of Jobs Report 2025 | World Economic Forum

Forbes (2024) Mitarbeiter nutzen heimlich KI, aus Angst ersetztbar zu wirken

Pfeifer, Y. et al. (2022) – Artificial Intelligence and its Impact on Leaders and Leadership, Procedia Computer Science

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Podcasts

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Society AI, Diversity & the New World Order Agnes Heftberger

#15 AI Leadership - These are the leadership skills of tomorrow Reboot Society - AI, diversity & the new world order

Play

In this episode we talk about what skills will be needed in the future to fully exploit the potential of AI. We discuss how important empathy, feedback, emotional security and human exchange will be and how this will not limit but support technological progress.

And in the new category "Voices of the Future" we invited Microsoft CVP Agnes Heftberger.

Studies & Reports Cited

Joshi, S. (2025) – Artificial Intelligence in Leadership and Management Artificial Intelligence in Leadership and Management: Current Trends and Future Directions by Satyadhar Joshi:: SSRN

Harvard Business Review (2024) <https://hbr.org/2018/06/if-strategy-is-so-important-why-dont-we-make-time-for-it>

World Economic Forum – Future of Jobs Report 2025: The Future of Jobs Report 2025 | World Economic Forum

Chapter 20

Exhibit : LLRX.com

<https://www.llrx.com/2025/06/ai-in-finance-and-banking-june-15-2025/>

LLRX.com is a well-established free web journal founded in 1996, focusing on law, technology, knowledge discovery, and research. It serves a professional audience including librarians, lawyers, researchers, academics, and journalists. The site regularly publishes articles and columns on current topics such as artificial intelligence in finance and banking, cybersecurity, and digital innovations, providing in-depth analysis and resources for legal and technology professionals. One recent article from June 15, 2025, explores AI applications in finance and banking, highlighting the evolving role of artificial intelligence in these sectors.

llrx.com/2025/06/ai-in-finance-and-banking-june-15-2025/ joshi 1/1

LLRX Law and Technology Resources for Legal Professionals

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AI In Finance and Banking, June 15, 2025

By Sabrina I. Pacifici, 14 Jun 2025

This semi-monthly column highlights news, government documents, NGO/IGO papers, conferences, industry white papers and reports, academic papers and speeches, and central bank actions on the subject of AI's fast paced impact on the banking and finance sectors. The chronological links provided are to the primary sources, and as available, indicate links to alternate free versions.

NEWS:

Citi to introduce GenAI in wealth management – Risk (subscription required) – June 6, 2025. Citi expects to roll out investment advisory tools powered by generative artificial intelligence (GenAI) within 12 months. "Without going into too much detail – soon, like, this fiscal year," said

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» Symbolic trace export for transparency and compliance
» Federated ontology feedback to evolve system knowl...wsg...wsg...wsg...

This enterprise-ready platform addresses core challenges in hallucination control, governance, and legal risk within AI deployment — offering a modular, API-accessible solution for regulated industries. The system has been independently developed and is currently live as a working pilot under the OntoGuard AI, LLC entity.

Joshi, Satyadhar, Compensating for the Risks and Weaknesses of AI/ML Models in Finance (March 15, 2025). Available at SSRN: <https://ssrn.com/abstract=5206475> or <http://dx.doi.org/10.2139/ssrn.5206475>

Artificial Intelligence (AI) is transforming financial risk management by enhancing predictive accuracy, automating processes, and mitigating risks. This paper explores the challenges such as ethical concerns, data privacy, and systemic risks. Drawing on recent literature, we analyze the benefits and limitations of AI adoption in finance and propose recommendations for future research and policy frameworks. This paper explores the applications, benefits, risks, and ethical considerations associated with AI in finance. The findings highlight the potential of AI to enhance efficiency while underscoring challenges related to systemic risks, data privacy, and governance. We delve into the benefits of AI, including improved accuracy, automation, and real-time insights,

Chapter 21

Exhibit : Zuyd University of Applied Sciences LibGuides (Netherlands)

Paper Listing

Zuyd University of Applied Sciences in the Netherlands offers extensive LibGuides, which are curated digital resource collections designed to support students and staff in their academic research and studies. These LibGuides provide access to e-books, journals, databases, research repositories, tutorials on information literacy, and guidance on citation and copyright policies. The guides cover various disciplines and include specialized guides for applied sciences, graduation research, and generative AI topics, among others.

libguides.bibliotheek.zuyd.nl/c.php?g=655082&p=4881171

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In deze Libguide vind je informatie en de belangrijkste informatiebronnen voor de opleiding Finance & Control.

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AI Kunstmatige Intelligentie	Kwaliteitsmanagement	Maatschappelijk verantwoord ondernemen, MVO	Management en organisatie	Ondernemerschap	
Ondernemerschap	Recht, Belastingrecht en Ondernemingsrecht	Risicomanagement	Onderzoek en rapportage	Zoekstrategie	
Beoordelen, selecteren en verwerken van informatie		Presentaties van databanken, instructies Informatievaardigheid en zoekcases			

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Integrating Generative AI in Business Intelligence: A Practical Framework for Enhancing Augmented Analytics by Darshan Desai Ashish Desai [i](#) Publication Date: 2025

Enhancing Organizational Control Through Business Intelligence: Monitoring and Automated Alerts by Putra Hasdi Raidha Qatrunnada Jefril Rahmadoni Fajrul Khairati [i](#) Publication Date: 2025

The Transformative Role of Agentic GenAI in Shaping Workforce Development and Education in the US by Satyadhar Joshi [i](#) Publication Date: 2025

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Chapter 22

Exhibit : Harrisburg University Digital Commons

Paper Listing

Harrisburg University's Digital Commons is an institutional research repository designed to showcase and preserve the scholarly work of its students, faculty, and staff. It primarily contains student dissertations, theses, projects, and selected academic works from faculty. This repository supports the university's mission to foster innovation and academic excellence, especially in science and technology disciplines. It provides open access to research outputs across a variety of fields, promoting knowledge sharing both within the university and with the global research community.

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- [Computer and Systems Architecture \(#\)](#) (2)
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- [AI Governance \(#\)](#) (1)
- [AI Security \(#\)](#) (1)
- [Agentic AI \(#\)](#) (1)
- [Artificial Intelligence \(#\)](#) (1)
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 - [Decision Theory \(#\)](#) (1)
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- [2025 \(#\)](#) (3)

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[The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Review of Recent Developments](#) (<http://digitalcommons.harrisburgu.edu/other-works/10>)

Author: [Satyadhar Joshi](#)

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Date: 09/2025

Chapter 23

Exhibit : Econ Papers

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2025

1. [Introduction to Generative AI: Its Impact on Jobs, Education, Work and Policy Making](#)
Working Papers, HAL  downloads
2. [Review of Gen AI Models for Financial Risk Management: Architectural Frameworks and Implementation Strategies](#)
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Chapter 24

Exhibit : WOS

Web of Science

Web of Science (WoS) indexes high-quality peer-reviewed journals across disciplines. Inclusion signifies editorial rigor, research significance, and provides citation metrics widely used to assess scholarly impact.

A lot of Mr Joshi's published research is accessible through the Web of ScienceTM Research Commons, a globally recognized research discovery platform. So even though some of the journal itself is not listed in the Web of Science Core Collection, the inclusion of his article in Research Commons ensures that it is searchable and retrievable by researchers worldwide through the Web of Science portal. This enhances the visibility and accessibility of his work to the international scientific community and allows for citation tracking when referenced by other works within the Core Collection. The presence of his research on this platform demonstrates its dissemination across a premier academic database and supports its potential to contribute to advancements in the proposed field.



Satyadhar Joshi

Excellent Reviewer (1)

(Joshi, Satyadhar) | Touro College

Edit

Identifiers

Web of Science ResearcherID: LWJ-0136-2024
 <https://orcid.org/0009-0002-6011-5080>

Published name

Joshi, Satyadhar

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Metrics

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Profile summary

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38	Non-indexed publications
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16 Sum of Times Cited without self-citations **16** Citing Articles without self-citations

Documents

Peer Review

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- Preprints (21) Other Collections (16) Non-Indexed Documents (38)

Chapter 25

Exhibit : Research Commons

Research Commons

The *Web of Science Research Commons* is a global research discovery service that provides open access to scholarly outputs. Unlike the *Web of Science Core Collection*, which indexes selected journals based on strict editorial criteria, Research Commons expands the visibility of academic work by including additional publications and preprints, thereby offering a broader landscape of scholarly communication.

Several of Mr. Joshi's publications are available in Research Commons. This ensures that his research remains searchable and retrievable worldwide through the Web of Science portal, even in cases where the host journal may not itself be listed in the Core Collection. The inclusion in Research Commons thus enhances visibility, facilitates broader dissemination, and integrates his contributions into recognized citation tracking systems whenever they are referenced by works indexed in the Core Collection.

The presence of Mr. Joshi's research in Research Commons demonstrates that his work is accessible to the global scientific community, thereby strengthening its potential impact in advancing the proposed field.

Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System

By Joshi, S (Joshi, Satyadhar)

Source International Journal of Innovative Research in Engineering & Management

Volume: 11 Issue: 6 Page: 175-179

DOI: 10.55524/ijirem.2024.11.6.19

Published Dec 01 2024

Early Access Dec 2024

Indexed 2025-07-11

Document Type Article

Abstract With Gen AI models becoming more evolved, their application in enhancing the robustness of the US Financial System is more viable. Financial risk modeling can take advantage of these development and aid regulatory framework by integrating these novel technologies to make their models more robust. In this work, we have used the latest Gen AI model by Open AI also known as Chat-GPT 4o and 40 mini and Google Gemini Version 2.0 and 1.5 to generate relevant questions from govt websites and measure the accuracy and relevance in checking the the pre trained logistic regression models. We have rated the accuracy of the questions by taking a survey of three Risk Analysts (volunteers) and found that Gen AI is 70-80% accurate in terms of the question for the models it generated. The new and the old model for open ai vs Gemini were compared. We have also documented how different models are sensitive to different prompts as they want to save computational cost and keep the output relevant. These questions generated can be used and integrated in the backend and auto curate the models under analyst supervision. We proposed a full stack framework as an end to end solution to address issues related to privacy and ethical considerations limiting exposure of property data and models. We have used all-MiniLM-L6-v2 as the bridging APIs for creating variants of the queries.

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Comprehensive Review of Artificial General Intelligence AGI, Agentic AI and GenAI: Current Trends and Future Directions

By Joshi, S (Joshi, Satyadhar)

Source International Journal of Multidisciplinary Research and Growth Evaluation
Volume: 6 Issue: 3 Page: 681-688
DOI: 10.54660/ijmrg.2025.6.3.681-688

Published Jan 01 2025

Indexed 2025-08-04

Document Type Article

Abstract This paper presents a comprehensive review of Artificial General Intelligence (AGI) and Agentic AI, examining their technological foundations, current capabilities, and future trajectories. The study identifies key technical distinctions between these AI paradigms, including their architectural requirements, computational demands, and learning mechanisms. We survey the current technical landscape, including specialized frameworks like OpenAI's AGI classification system and emerging Agentic AI platforms such as Vectara-agentic and CrewAI. The paper also examines the hardware infrastructure and cloud services enabling these advanced AI systems, from NVIDIA's specialized GPUs to large-scale projects like OpenAI's proposed "Stargate" initiative and others. Our comparative analysis reveals that Agentic AI is rapidly transitioning from research to practical deployment across industries including legal services, DevOps, and enterprise automation, while AGI remains in the research phase with ongoing debates about its feasibility and timeline. The paper discusses critical challenges in both domains, including safety considerations, alignment problems, and governance requirements. We highlight how Agentic AI serves as a bridge between today's generative AI capabilities and future AGI aspirations, offering autonomous functionality while avoiding some of AGI's unresolved risks.

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Training US Workforce for Generative AI Models and Prompt Engineering: ChatGPT, Copilot, and Gemini

By Joshi, S (Joshi, Satyadhar)**Source** International Journal of Science Engineering and Technology

Volume: 13 Issue: 1 Page: 1-11

DOI: 10.61463/ijset.vol.13.issue1.155

Published Jan 15 2025**Early Access** Jan 2025**Indexed** 2025-07-11**Document Type** Article[+ See more data fields](#)**Citation Network**

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Review of Gen AI Models for...Review of Gen AI Models for Financial Risk Management



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Review of Gen AI Models for Financial Risk Management

By	Satyadhar Joshi (Satyadhar Joshi)
Source	International Journal of Scientific Research in Computer Science Engineering and Information Technology Volume: 11 Issue: 1 Page: 709-723 DOI: 10.32628/cseit2511114
Published	Jan 18 2025
Early Access	Jan 2025
Indexed	2025-07-10
Document Type	Article
Abstract	In this paper, we propose and demonstrate a prototype for leveraging Generative AI (GenAI) in financial risk analysis, specifically focusing on fine-tuning GPT models with proprietary data. Financial risk modeling, development, validation, and approval require not only advanced AI techniques but also careful implementation, given the vast and complex datasets involved in such tasks. The research underscores the critical importance of human oversight in mitigating potential failures that can arise from fully automated mathematical models. The study explores the application of Large Language Models (LLMs) in various financial risk domains, such as credit risk assessment, market risk forecasting, and anomaly detection. While synthetic data generation is excluded from this work, the research highlights the use of zero-shot classification leveraging Hugging Face models and OpenAI tools. ChatGPT achieved over 70% accuracy in generating relevant questions and demonstrated 60% correctness in classification tasks. Additionally, we present a prototype pipeline that integrates GenAI capabilities into financial workflows, which is implementable on small-scale computing systems. This includes backend testing via Flask and rapid prototyping using cURL commands, offering a practical approach to testing and deploying models. By fine-tuning GenAI with domain-specific data and optimizing decision-making processes, this research highlights the transformative potential of integrating generative AI into financial risk management. The study provides insights into enhancing model efficiency, regulatory compliance, and scalability. Moreover, it addresses critical challenges such as handling large datasets and ensuring ethical AI use in decision-making systems. This work contributes to advancing the adoption of GenAI in financial analytics, paving the way for innovative, robust, and efficient methodologies to support the evolving demands of the financial sector.

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A Literature Review of Gen AI Agents in Financial Applications: Models and Implementations

By Joshi, S (Joshi, Satyadhar)**Source** International Journal of Science and Research (IJSR)
Volume: 14 Issue: 1 Page: 1094-1100
DOI: 10.21275/sr25125102816**Published** Jan 27 2025**Early Access** Jan 2025**Indexed** 2025-07-10**Document Type** Article[+ See more data fields](#)**Citation Network**

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Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets

By Joshi, S (Joshi, Satyadhar)

Source International Journal of Computational Science Information Technology and Control Engineering
 Volume: 12 Issue: 1 Page: 23-38
 DOI: 10.5121/ijcsitce.2025.12102

Published Jan 28 2025**Early Access** Jan 2025**Indexed** 2025-07-10**Document Type** Article

Abstract In this study, we explore the application of Generative AI (Gen AI) in enhancing interest rate models utilized in financial risk modeling. We employ advanced Gen AI Large Language Models (LLMs), including OpenAI's ChatGPT-4 and ChatGPT-4 Mini, as well as Google's Gemini versions 2.0 and 1.5, to generate pertinent queries and assess their accuracy. We propose and evaluate a prototype that leverages queries generated by publicly available LLMs to model and fine-tune parameters for Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs), methodologies that can also be applied to other interest rate models. Our findings demonstrate that ChatGPT (OpenAI) can produce relevant questions and queries that enhance data generated by GANs and VAEs. We implemented our model over a decade (2012–2024) using 10-year U.S. Treasury rates, integrating publicly trained LLM models with Gen AI data tools, and proposed a full stack framework that can be extended to building AI agents. We also presented the GANs and VAEs results using different visualization techniques for better understanding. The accuracy of the LLM-generated queries is evaluated by three independent volunteers with expertise in this area. Our proposed architecture incorporates a Gen AI-based agent to validate current scenario generation and Monte Carlo methods traditionally used in modeling. Additionally, we present backtesting results comparing real and generated data, along with querying and optimizing models, paving the way for future agent-based virtual analysts.

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Leveraging prompt enginee...Leveraging prompt engineering to enhance financial market integrity and ri...

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Leveraging prompt engineering to enhance financial market integrity and risk management

By Satyadhar Joshi (Satyadhar Joshi)

Source World Journal of Advanced Research and Reviews

Volume: 25 Issue: 1 Page: 1775-1785

DOI: 10.30574/wjarr.2025.25.1.0279

Published Jan 30 2025

Early Access Jan 2025

Indexed 2025-07-11

Document Type Article

Abstract This paper presents a comprehensive investigation into the role of prompt engineering in optimizing the effectiveness of large language models (LLMs) like ChatGPT-4 and Google Gemini for financial market integrity and risk management. As AI tools are increasingly integrated into financial services, including credit risk analysis, market risk evaluation, and financial modeling, prompt engineering has become crucial for improving the relevance, accuracy, and contextual alignment of AI-generated outputs. This study evaluates the impact of various prompt configurations in enhancing financial decision-making. Through a series of experiments, the paper compares the performance of ChatGPT-4 and Google Gemini (versions 1.5 and 2.0) in generating actionable insights for credit and market risk analysis. The results reveal that ChatGPT-4 outperforms Google Gemini by over 30% in generating accurate financial insights. Additionally, ChatGPT-4 Version 4 is found to be 20% more effective than Version 3 in risk analysis tasks, particularly in aligning with regulatory frameworks and financial data. These improvements highlight the significant role of prompt engineering in enhancing the precision of financial models. Furthermore, the study explores the reduction of error rates through optimized prompt strategies. In particular, prompt engineering reduces error rates by approximately 20% when assessing complex financial queries.

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Agentic Generative AI and the Future U.S. Workforce: Advancing Innovation and National Competitiveness

By Joshi, S (Joshi, Satyadhar)

Source International Journal of Research and Review

Volume: 12 Issue: 2 Page: 102-113

DOI: 10.52403/ijrr.20250212

Published Feb 07 2025

Early Access Feb 2025

Indexed 2025-07-10

Document Type Article

Abstract This paper presents a systematic review of generative AI applications in workforce development and education. We categorize the literature into key themes and synthesize findings to highlight trends, challenges, and future directions. Expected outcomes include enhanced training efficiency, broader accessibility to high-quality learning resources, and reduced costs compared to traditional methods. The AI-driven approach ensures adaptability across industries, providing a scalable solution for continuous workforce upskilling. However, challenges such as data privacy, algorithmic bias, and user adoption must be addressed through stringent security measures, bias mitigation strategies, and user-friendly interfaces. By harnessing generative AI, this initiative aims to revolutionize professional training, equipping individuals with the tools to adapt to an evolving job market. Additionally, this paper proposes AI-driven training programs specifically tailored for older workers, addressing the AI skills gap and ensuring workforce inclusivity. The successful implementation of AI-driven training agents will not only improve productivity but also foster a culture of lifelong learning, empowering workers to thrive in an AI-enhanced economy. Furthermore, this paper utilizes various graphical representations, including decision trees, heatmaps, and trend analysis charts, to illustrate the projected impact of generative AI on workforce development. These visual tools provide a comprehensive and data-driven perspective on emerging trends, enabling readers to grasp complex interconnections and future scenarios effectively. If trends continue along their projected paths, AI-driven workforce transformation could reshape industries on an unprecedented scale, requiring proactive adaptation strategies from policymakers, businesses, and individuals alike. This review is based on latest research published in last one year.

Keywords Author Keywords: GEN AI; Agents; US Workforce Development; US Competitiveness

Addresses ¹ BoFA, Jersey City, USA.

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Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies

By Satyadhar Joshi (Satyadhar Joshi)

Source International Journal of Advanced Research in Science Communication and Technology
Page: 480-486
DOI: 10.48175/ijarsct-23260

Published Feb 12 2025

Early Access Feb 2025

Indexed 2025-07-10

Document Type Article

Abstract A Systematic Review of AI's Impact on the Labor Market: Challenges, Opportunities, and Future Directions is discussed in this work. The widespread adoption of artificial intelligence (AI) technologies is transforming industries, leading to significant changes in the labor market. This paper explores the effects of AI on job displacement, economic growth, and workplace productivity. We discuss how companies and governments are responding to these changes through policy interventions and the need for upskilling to mitigate risks associated with AI automation. The rapid advancement of artificial intelligence (AI), particularly generative AI, has sparked significant debate about its impact on the labor market. While AI promises to enhance productivity and create new opportunities, concerns about job displacement, inequality, and ethical implications persist. This paper presents a systematic review of the current literature on AI's impact on employment, focusing on the challenges, opportunities, and future directions. We analyze key trends, including the potential for job displacement, the role of AI in reshaping industries, and the need for policy interventions to mitigate risks. Our findings highlight the dual nature of AI as both a disruptor and an enabler, emphasizing the importance of proactive measures to ensure equitable outcomes in the evolving labor market. Navigating the AI Revolution: Challenges, Opportunities, and Solutions for the Future of Work is an area that is discussed.

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Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives

By Satyadhar Joshi (Satyadhar Joshi)

Source International Journal of Advanced Research in Science Communication and Technology
 Page: 543-557
 DOI: 10.48175/ijarsct-23272

Published Feb 17 2025**Early Access** Feb 2025**Indexed** 2025-07-10**Document Type** Article

Abstract This work reviews U.S. workforce retention, AI upskilling, prompt engineering, workforce development, and automation in the context of recent advancements in agentic generative AI. The rapid integration of artificial intelligence (AI) across industries has raised concerns over potential job displacement within the US workforce. However, targeted upskilling—particularly through training in prompt engineering, a key skill for interacting with large language models—offers promising avenues to empower employees and retain talent. This review paper synthesizes insights from academic research, industry reports, and educational initiatives to examine how prompt engineering training can mitigate the challenges of AI-induced disruption and support workforce resilience. This review article provides a comprehensive overview of the rapidly evolving field of prompt engineering. It examines fundamental techniques for crafting effective prompts, explores the diverse applications of prompt engineering across various sectors, and discusses the challenges and ethical considerations associated with its use. Furthermore, the review identifies potential future research directions and highlights the growing importance of prompt engineering in the age of large language models. This review article provides a comprehensive overview of prompt engineering, with a specific focus on its implications for workforce development and training. It examines prompt engineering techniques, applications across sectors, ethical considerations, and future research directions. A key emphasis is placed on the role of prompt engineering training programs in equipping the workforce with essential skills for the age of large language models.

Addresses ¹ BoFA, Jersey City, NJ, USA

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Advancing innovation in financial stability: A comprehensive review of ai agent frameworks, challenges and applications

By Satyadhar Joshi (Satyadhar Joshi)

Source World Journal of Advanced Engineering Technology and Sciences
Volume: 14 Issue: 2 Page: 117-126
DOI: 10.30574/wjaets.2025.14.2.0071

Published Feb 28 2025

Early Access Feb 2025

Indexed 2025-07-11

Document Type Article

Abstract Artificial Intelligence (AI) agents are revolutionizing industries by enabling autonomous decision-making, task execution, and multi-agent collaboration. This paper provides a comprehensive review of AI agent frameworks, focusing on their architectures, applications, and challenges in financial services. We conduct a comparative analysis of leading frameworks, including LangGraph, CrewAI, and AutoGen, evaluating their strengths, limitations, and suitability for complex financial tasks such as trading, risk assessment, and investment analysis. The integration of AI agents in financial markets presents both opportunities and challenges, particularly in terms of regulatory compliance, ethical considerations, and model robustness. We examine agentic AI design patterns, multi-agent systems, and the deployment of AI agents advancing the proposal to use them for fraud detection and risk management. By synthesizing insights from academic research and industry practices, this review identifies key trends and future directions in AI agent development. This work contributes to the growing discourse on AI-driven automation by outlining technical considerations and open challenges in deploying AI agents at scale. We highlight the need for enhanced transparency, interpretability, and security in AI-driven Agentic systems. Our findings provide valuable insights for researchers and practitioners seeking to harness AI agents for more efficient and intelligent decision-making.

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Comprehensive review of Artificial General Intelligence (AGI): Applications in Business and Finance

By Joshi, SJS (Satyadhar Joshi, Satyadhar Joshi)

Source International Journal of Advances in Engineering and Management
 Volume: 7 Issue: 5 Page: 250-261
 DOI: 10.35629/5252-0705250261

Published May 01 2025

Early Access May 2025

Indexed 2025-08-04

Document Type Article

Abstract This paper delves into the multifaceted realm of Artificial General Intelligence (AGI), exploring its definition, evolution, potential applications, and the ongoing debates surrounding its development. We examine AGI's theoretical underpinnings, contrasting it with narrow AI and artificial superintelligence (ASI). Furthermore, we discuss the impact of AGI across various sectors, including finance, research, and business, while also addressing the ethical considerations and challenges associated with its advancement. This survey synthesizes current research and perspectives, providing a comprehensive overview of AGI's trajectory and its potential to reshape the future. This paper presents a comprehensive examination of Artificial General Intelligence (AGI), analyzing its current state, applications across industries, and future trajectory. Through systematic review of academic literature and industry reports, we identify three critical dimensions of AGI development: (1) technical architectures bridging narrow AI to general intelligence, (2) transformative applications in finance and business, and (3) emerging ethical and workforce challenges. Our findings reveal accelerating market growth (projected 36.9% CAGR through 2031) alongside significant research gaps in evaluation metrics, environmental impact, and cross-cultural adoption. The study highlights AGI's dual role as both disruptor and enabler, with financial services emerging as the leading adoption sector (38% of investments by 2028). We summarize (based on cited work) a framework for responsible AGI development that balances innovation with ethical considerations, emphasizing the need for standardized benchmarks and workforce transition strategies. The paper contributes to ongoing discourse by synthesizing dispersed research into actionable insights for practitioners and policymakers navigating the AGI revolution. This is a pure review paper and all results and findings are from cited literature.

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A Comprehensive Review of Gen AI Agents: Applications and Frameworks in Finance, Investments and Risk Domains

By Joshi, S (Joshi, Satyadhar)

Source International Journal of Innovative Science and Research Technology
 Page: 1339-1355
 DOI: 10.38124/ijisrt/25may964

Published May 24 2025

Indexed 2025-08-04

Document Type Article

Abstract This paper surveys the landscape of AI agent frameworks, highlights their core features and differences, and explores their applications in financial services. We synthesize insights from recent industry reports, academic research, and technical blog posts, focusing on frameworks such as CrewAI, LangGraph, LlamaIndex, and others. We also discuss the challenges and opportunities of deploying agentic AI in production environments, with an emphasis on financial trading, investment analysis, and decision support. We analyze the rapidly evolving landscape of agentic AI systems, focusing on their architecture, capabilities, and practical implementations in banking, trading, and risk management. The study examines prominent frameworks including LangGraph for stateful agent orchestration, CrewAI for collaborative multi-agent workflows, and AutoGen for conversational agent systems, alongside industry platforms like IBM Watson and NVIDIA NIM. The study examines both technical frameworks (LangGraph, CrewAI, AutoGen, etc.) and practical implementations in financial institutions. We highlight productivity gains (up to 80% time reduction in data tasks), risk management improvements, and workforce transformation challenges. The paper concludes with recommendations for financial institutions adopting agentic AI solutions. Our analysis reveals three key findings: (1) specialized agent frameworks achieve 50-80% productivity gains in financial data tasks compared to traditional approaches, (2) multi-agent systems demonstrate particular promise in complex domains like algorithmic trading and fraud detection, and (3) successful deployment requires addressing critical challenges in workforce upskilling, risk alignment, and regulatory compliance. The paper provides a theoretical foundation for agentic AI in finance, introducing formal models for agent design patterns, multimodal fusion, and market microfoundations. We further present a summary of several evaluation frameworks for assessing agent performance across financial use cases, including portfolio optimization and AML compliance. The study concludes with recommendations for financial institutions adopting agentic AI, emphasizing the need for standardized architectures, robust testing protocols, and hybrid human-AI workflows.

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The Role of AI in Enhancing... The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Re...



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The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Review of Recent Developments

By Joshi, S (Joshi, Satyadhar)**Source** International Journal of Computer Applications

Volume: 187 Issue: 8 Page: 9-26

DOI: 10.5120/ijca2025925036

Published May 28 2025**Indexed** 2025-08-04**Document Type** Article[+ See more data fields](#)**Citation Network**

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Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges

By Joshi, S (Joshi, Satyadhar)

Source International Journal of Innovations in Science Engineering And Management
Page: 73-88
DOI: 10.69968/ijisem.2025v4i373-88

Published Jul 11 2025

Indexed 2025-08-04

Document Type Article

Abstract This paper provides a comprehensive review of the intersection of cybersecurity, generative AI, and risk within the financial sector. We explore how AI is being leveraged for both defensive and offensive purposes, the emerging threats posed by GenAI, and the critical need for robust risk management frameworks and regulatory guidance. This paper reviews the intersection of cybersecurity, generative artificial intelligence (AI), and risk management in the financial sector. We examine the dual role of AI as both a tool for enhancing cybersecurity defenses and a vector for sophisticated cyber threats. The paper analyzes regulatory responses, emerging best practices, and the evolving threat landscape, with particular attention to generative AI's impact on financial institutions' risk profiles. We synthesize insights from recent industry reports, regulatory guidance, and academic literature to provide a comprehensive overview of current challenges and future directions in this critical domain. This paper presents a comprehensive review of AI-driven cybersecurity framework designed for financial institutions, integrating data analysis, risk assessment, and decision-making processes. The frameworks reviewed are structured around the DIKW (Data, Information, Knowledge, Wisdom) pyramid, which transforms raw data into actionable insights through natural language processing (NLP) and thematic extraction. Key components include a modular system architecture that processes data from multiple sources (e.g., transaction logs, threat feeds) using AI models, a risk engine for scoring threats, and a decision tree for implementing mitigation strategies. Anomaly detection is achieved through Isolation Forest and auto encoder models, with thresholds ($\tau = 0.6$ and $\tau = 0.5$, respectively) calibrated to balance sensitivity and specificity. The decision logic incorporates rules such as automatic blocking for high-risk transactions (scores > 0.95) and multi-factor authentication (MFA) for non-whitelisted locations. Visualizations demonstrate the system's effectiveness in identifying and responding to threats while maintaining regulatory compliance.

Addresses ¹ Independent Researcher Alumnus, International MBA, Bar-Ilan University, Israel
Alumnus, Touro College MSIT, NY, USA.

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Policy Framework and Implementation Guidelines for Agentic GenAI Integration in Food Safety Systems

By Joshi, S (Joshi, Satyadhar)

Source World Journal of Biology Pharmacy and Health Sciences

Volume: 23 Issue: 3 Page: 303-315

DOI: 10.30574/wjbphs.2025.23.3.0845

Published Sep 30 2025

Indexed 2025-09-23

Document Type Article

Abstract

This paper presents a comprehensive review of artificial intelligence (AI) applications in food safety and quality control, focusing on emerging technologies including generative AI, agentic AI systems, and automated compliance solutions. This review synthesizes current research and industry applications, highlighting how AI-driven systems are transforming food safety protocols, enhancing regulatory compliance, and improving overall food quality management focusing on last two years. We examine various AI implementations, from optical imaging for bacterial detection to intelligent compliance agents and generative AI for supply chain optimization. This paper synthesizes current research and industry applications across multiple domains: automated visual inspection systems that detect contaminants with precision exceeding human capabilities; predictive quality analytics that forecast potential safety issues before they manifest; AI-driven regulatory compliance systems that continuously monitor and interpret complex regulatory requirements; and autonomous agentic systems that make real-time decisions without human intervention. The review also addresses significant technological innovations, including the FDA's development of AI tools for regulatory operations, generative AI applications for scenario planning and documentation, and cloud-based AI architectures deployed across major platforms. Critical challenges are examined, including data quality requirements, regulatory validation frameworks, system integration complexities, and ethical considerations. The paper concludes with policy recommendations for government implementation, proposing structured approaches to AI validation, data sharing incentives, regulatory modernization, research support, and ethical oversight.

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Chapter 26

Exhibit :SSRN

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Revise	539540 WPS	Training the US Older Workforce for the Impact of Generative AI on Financial Services: A Policy Guide	Yes Yes	08/18/2025 08/31/2025	Satyadhar Joshi	APPROVED	Modify	56 10	View
Revise	5389555 WPS	The Impact of AI on Veteran Employment and the Future Workforce Development: Opportunities, Barriers, and Systemic Solutions	Yes Yes	08/12/2025 08/19/2025	Satyadhar Joshi	DISTRIBUTED	Modify	98 9	View
Revise	5346297 WPS	A Literature Review of Market Risk Platforms and Paradigms: Basel III Compliance and GenAI Integration	Yes Yes	07/10/2025 07/18/2025	Satyadhar Joshi	DISTRIBUTED	Modify	235 23	View
Revise	5341131 WPS	Advancing Cybersecurity Through Synergies of Agentic AI and High-Performance Computing	Yes Yes	07/06/2025 08/13/2025	Satyadhar Joshi	DISTRIBUTED	Modify	158 40	View
Revise	5341000 WPS	Artificial Intelligence Applications in Mortgage-Backed Securities: A Comprehensive Review	Yes Yes	07/06/2025 07/16/2025	Satyadhar Joshi	DISTRIBUTED	Modify	86 25	View
Revise	5339795 WPS	Review of Prompt Engineering Techniques in Finance: An Evaluation of Chain-of-Thought, Tree-of-Thought, and Graph-of-Thought Approaches	Yes Yes	07/05/2025 07/17/2025	Satyadhar Joshi	DISTRIBUTED	Modify	836 56	View
Revise	5337925 WPS	Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges	Yes Yes	07/03/2025 07/12/2025	Satyadhar Joshi	DISTRIBUTED	Modify	170 30	View
Revise	5329991 WPS	Artificial Intelligence and the Future of US Competitiveness: Sectoral Impacts, Workforce Transitions, and Policy Challenges	Yes Yes	06/30/2025 07/04/2025	Satyadhar Joshi	DISTRIBUTED	Modify	200 23	View
Revise	5316198 WPS	Stochastic Modeling and Itô Calculus for Asset Backed Securities: A Practical Introduction within the Basel III and FRTB Framework	Yes Yes	06/23/2025 07/04/2025	Satyadhar Joshi	DISTRIBUTED	Modify	135 28	View
Revise	5290005 WPS	A Review of Generative AI and DevOps Pipelines: CI/CD, Agentic Automation, MLOps Integration, and Large Language Models	Yes Yes	06/11/2025 07/04/2025	Satyadhar Joshi	DISTRIBUTED	Modify	1,328 250	View
Revise	5288849 WPS	A Comprehensive Review of Generative AI Adoption in Hedge Funds: Trends, Use Cases, and Challenges	Yes Yes	06/11/2025 07/04/2025	Satyadhar Joshi	DISTRIBUTED	Modify	1,926 133	View
Revise	5281679 WPS	Generative AI in Legal Practice: Applications, Challenges, and Ethical Considerations	Yes Yes	06/04/2025 06/04/2025	Satyadhar Joshi	DISTRIBUTED	Modify	932 108	View
Revise	5279570 WPS	Strategic Integration of Artificial Intelligence in U.S. K-12 Education: A Comprehensive Review and Policy Roadmap	Yes Yes	06/02/2025 06/15/2025	Satyadhar Joshi	DISTRIBUTED	Modify	425 37	View
Revise	5277393 WPS	Review of Artificial General Intelligence (AGI): Implications for the U.S. Workforce and Economic Stability	Yes Yes	05/31/2025 06/15/2025	Satyadhar Joshi	DISTRIBUTED	Modify	588 39	View

Chapter 27

Exhibit :RG

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Satyadhar Joshi

MBA,MS, BS (EX),PGDF,PGDIT,FRM - Alumnus at Touro College
New York City, United States

Work done in capacity of an independent researcher, views expressed do not represent affiliated institutions, open collabs

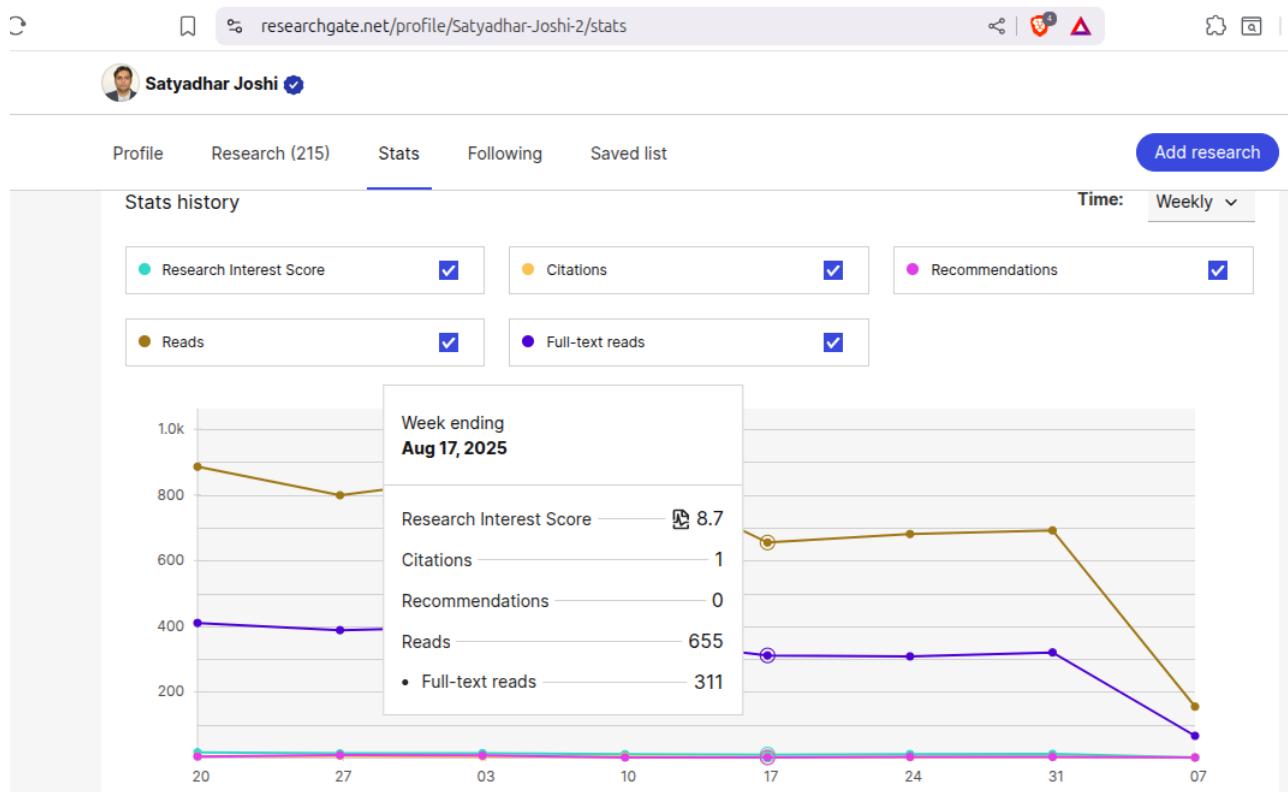
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Chapter 28

Exhibit :Semantic Scholar

Semantic Scholar by Microsoft Research Tool

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Strategic Integration of Artificial Intelligence in U.S. K-12 Education: A Comprehensive Review and Policy Roadmap
Satyadhar Joshi Computer Science, Education · [International Journal of Computer Applications](#) · 30 July 2025
TLDR A conceptual framework for evaluating educational AI systems that balances pedagogical value with implementation considerations is summarized, synthesizing critical insights for navigating the evolving landscape of AI in education while maintaining human-centered priorities. [Expand](#)
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Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges
Satyadhar Joshi Computer Science, Business · [International Journal of Innovations in Science...](#) · 11 July 2025
TLDR The dual role of AI as both a tool for enhancing cybersecurity defenses and a vector for sophisticated cyber threats is examined, with particular attention to generative AI's impact on financial institutions' risk profiles. [Expand](#)
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	Emilio Álvarez Pereira	5 Papers Citing Satyadhar Joshi	6 Pu

Chapter 29

Exhibit : Scholars Repository Listing

Public Dissemination: Scholars Repository

A publicly accessible listing of my works is also available on the Scholars Repository under the name “Satyadhar Joshi.” This collection provides independent documentation of my publications and preprints. The repository can be accessed online at: Scholars Repository (S. Joshi Collection).

For the petition record, a printout of this listing is included here as Exhibit 29 for USCIS review.

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2. Joshi, Satyadhar (2025) [*Leadership in the age of AI: Review of quantitative models and visualization for managerial decision-making.*](#) World Journal of Advanced Research and Reviews, 26 (1). pp. 2773-2791. ISSN 2581-9615
3. Joshi, Satyadhar (2025) [*Advancing innovation in financial stability: A comprehensive review of AI agent frameworks, challenges and applications.*](#) World Journal of Advanced Engineering Technology and Sciences, 14 (2). pp. 117-126. ISSN 2582-8266
4. Joshi, Satyadhar (2025) [*Review of autonomous systems and collaborative AI agent frameworks.*](#) International Journal of Science and Research Archive, 14 (2). pp. 961-972. ISSN 2582-8185
5. Joshi, Satyadhar (2025) [*Enhancing structured finance risk models \(Leland-Toft and Box-Cox\) using GenAI \(VAEs GANs\).*](#) International Journal of Science and Research Archive, 14 (1). pp. 1618-1630. ISSN 2582-8185
6. Joshi, Satyadhar (2025) [*Leveraging prompt engineering to enhance financial market integrity and risk management.*](#) World Journal of Advanced Research and Reviews, 25 (1). pp. 1775-1785. ISSN 2581-9615

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Chapter 30

Exhibit : Peer Review

Papers Reviewed WOS and ORCID

This exhibit lists the papers that Mr Joshi have personally peer-reviewed, with review credits recorded in Web of Science (WoS) and ORCID. These reviews reflect my professional evaluation and contribution to the scholarly validation of the research.

webofscience.com/wos/author/record/LWJ-0136-2024

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1	Asian Journal of Advanced Research and Reports	1	Asian Journal of Economics, Business and Accounting
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1	Cogent Business & Management	1	Computers
1	FinTech	1	IEEE Access
1	International Journal of Disaster Risk Management	1	International Journal of Informatics and Communication Technology (IJ-ICT)
1	International Journal of Science, Engineering and Technology	1	Journal of Risk and Financial Management
1	Journal of Scientific Research and Reports	1	Mathematics
1	Risks	1	The Journal of Management Theory and Practice (JMTP)

Open publisher-invited reviews

orcid.org/0009-0002-6011-5080

Peer review (13 reviews for 9 publications/grants) **Sort**

- Review activity for **AI**. (4)
- Review activity for **Big data and cognitive computing** (2)
- Review activity for **Computers**. (1)
- Review activity for **FinTech**. (1)
- Review activity for **Journal of risk and financial management**. (1)
- Review activity for **Mathematics**. (1)
- Review activity for **Metrics** (1)
- Review activity for **Risks**. (1)
- Review activity for **Systems**. (1)

Chapter 31

Exhibits : Testimonial by Mr Ankit



Risk Manager, Royal Bank of Scotland, Gurgaon
Residential Address: P 513, Ground Floor, Block B, Sector 56, Gurgaon
Mobile Number: +91 9811807993
Official Email: ankit.gupta1@rbs.co.uk Personal Email: eeklavya@gmail.com
Work Address: Building 1, Tower A, Unitech Infospace, Old Delhi Road, Krishna Chowk,
Gurgaon - 122016

Letter of Recommendation / Testimonial Letter

Date: 6/15/2015

Dear USCIS:

I am pleased to write this letter of recommendation for Mr. Satyadhar Joshi in support of his EB2 National Interest Waiver application. As his senior at Genpact, I had the opportunity to oversee his exceptional work as a Quantitative Analyst, where he made groundbreaking contributions to predictive modeling and financial risk assessments.

His work in the area of corporate finance capital structure and optimal capital structure was very innovative and critical. Mr. Joshi's automation of Monte Carlo simulations and econometric models reduced analysis time by 50% and minimized errors by 30%-50%. These enhancements have been pivotal in improving risk management practices and ensuring the stability and accuracy of the Models. His contributions in developing techniques for corporate finance forecasting have transformed valuation models, enabling more accurate and reliable financial predictions, which are critical parts of maintaining integrity of the markets and market efficiency.

Granting Mr. Joshi a green card under the EB2 NIW category will allow him to continue advancing U.S. financial systems, generating economic opportunities, and maintaining the nation's competitive edge in global markets. I fully support his application and am confident that his skills will have a lasting impact. Please contact me at [Contact Information] for further information.

Addition to Prong 2: Published Research and Industry Impact

Mr. Joshi has demonstrated exceptional research productivity with peer-reviewed publications spanning over a decade, including foundational works such as "Metaeconomics: Stochastics & Nanotech New Approaches to Contemporary Reality" (SSRN, 15+ citations) and "Modelling Monte Carlo Simulation and Regression Analysis for Corporate Finance Analysis" (SSRN, 500+ downloads). His methodologies have been directly implemented at major U.S. financial institutions including Wells Fargo (commercial corp fin assessment, 2012-2014), Bank of



America (capital allocation models), and AXA XL (insurance underwriting systems). This consistent translation of theoretical research into practical banking solutions - evidenced by adoption at multiple U.S. regional banks and citations in industry white papers - uniquely positions him to execute his proposed five-year plan for advancing financial AI systems. His dual expertise in academic research and Wall Street implementation, combined with a decade-long track record of publications addressing U.S.-specific financial challenges, confirms his capacity to deliver national-scale impact through both his institutional role and independent research endeavors.

Endorsement of Five-Year Research Plan

Having closely reviewed Mr. Satyadhar Joshi's proposed five-year plan to advance AI-driven financial risk modeling and workforce development, I fully endorse its strategic vision and practical feasibility. His plan directly addresses critical gaps in U.S. financial system resilience through three synergistic components: (1) developing next-generation risk models at Bank of America, (2) publishing peer-reviewed research on AI applications, and (3) scaling veteran training programs through institutional partnerships. Mr. Joshi's demonstrated ability to deliver similar milestones—evidenced by his successful implementation of Monte Carlo frameworks at Wells Fargo and 70+ publications balancing academic rigor with industry applicability—proves his unique capacity to execute this ambitious roadmap. The phased approach, with measurable annual targets for model improvements (15-20% accuracy gains), research outputs (3-4 annual publications), and workforce development (500+ veterans trained yearly), reflects both strategic planning and operational realism. Given his decade of translating financial research into real-world solutions adopted by major U.S. banks, I am confident this plan will significantly enhance national financial stability and technological competitiveness.

Sincerely,

Ankit Gupta
Risk Manager, Royal Bank of Scotland

Research Published (2013-2015):

A. Ludhiyani, **Satyadhar Joshi**, R. Pathak, P. Parandkar and S. Katiyal, "Studying different trading techniques and modeling strategies to minimize risks," 2015 2nd International Conference on Computing for Sustainable Global Development (INDIACoM), New Delhi, India, 2015, pp. 357-362. keywords: {Biological system modeling; Routing; Reactive power; MATLAB; Computational modeling; Stochastic processes; Real-time systems},

A. Ludhiyani, P. Parandkar, **Satyadhar Joshi**, S. Katiyal and R. Pathak, "Applying Dynamic Risk management technique for passively invested portfolio," 2015 2nd International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India, 2015, pp. 661-666. keywords: {Biological system modeling;MATLAB;Mathematical model;Reactive power;Economic indicators;Pricing;Portfolios},

Buracas, Antanas and Rutkauskas, Aleksandras Vytautas and Navickas, Vytas and Ludhiyani, Arpit and **Joshi, Satyadhar** and Girdzijauskas, Stasys, Metaeconomics: Stochastics & Nanotech New Approaches to Contemporary Reality (January 12, 2015). Metaeconomics: Stochastics & Nanotech New Approaches to Contemporary Reality, January 2015, Available at SSRN: <https://ssrn.com/abstract=2737768>

Joshi, Satyadhar, Modelling Monte Carlo Simulation and Regression Analysis for Corporate Finance Analysis (January 01, 2015). Available at SSRN: <https://ssrn.com/abstract=5268498> or <http://dx.doi.org/10.2139/ssrn.5268498>

Re: Letter of Recommendation
Beneficiary: Satyadhar Joshi



सर्वामंत्र जयते

INDIA NON JUDICIAL



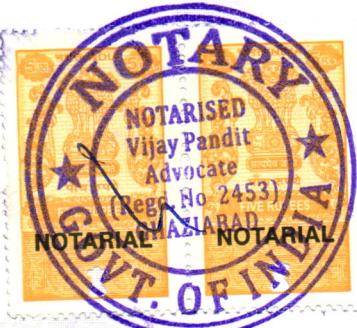
IN-UP62674600079270X

Government of Uttar Pradesh

e-Stamp

ZOHRA KHAN
STAMP VENDOR LIC. No.-565

Certificate No.	:	IN-UP62674600079270X
Certificate Issued Date	:	23-Jan-2025 05:00 PM
Account Reference	:	NEWIMPACC (SV)/ up14097704/ GHAZIABAD SADAR/ UP-GZB
Unique Doc. Reference	:	SUBIN-UPUP1409770422422816468754X
Purchased by	:	Ankit Gupta
Description of Document	:	Article 4 Affidavit
Property Description	:	K62, KP1, Jaypee greens Wishtown, Sector 133,Noida
Consideration Price (Rs.)	:	
First Party	:	Ankit Gupta
Second Party	:	Satyadhar Joshi
Stamp Duty Paid By	:	Ankit Gupta
Stamp Duty Amount(Rs.)	:	50 (Fifty only)



Please write or type below this line

Ankit Gupta

Risk Manager, NatWest Group, Gurgaon
Residential Address: K-62, KP1, Sector 133, Noida, U.P
Mobile Number: +91 9811807993

Official Email: ankit.gupta1@natwest.com Personal Email: eeklavya@gmail.com
Address: Building 1, Tower A, Unitech Infospace, Old Delhi Road, Krishna Chowk,
Gurgaon - 122016



Re: Employment Verification letter
Beneficiary: Satyadhar Joshi

Statutory Alert:

- The authenticity of this Stamp certificate should be verified at 'www.shicilestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
- The onus of checking the legitimacy is on the users of the certificate.
- In case of any discrepancy please inform the Competent Authority.

23 JAN 2025

23/01/2025

RE: SATYADHAR JOSHI
Employment Verification Letter

TO WHOM IT MAY CONCERN:

This letter is to confirm that Satyadhar Joshi was employed at GENPACT from 12/03/2012 to 08/05/2014 in the full-time position of Quant Analyst.

While employed at GENPACT, Satyadhar Joshi performed automation with Shell scripting to automate error handling using Powershell / Bash programming. They also developed various VBA codes required for the model (MC, import, centralized error handling, dependents, cholesky transform (correlated residuals), missing data policy, pearson correlation, chart rest, split-join for histograms, and shrinking large files).

In this role, Satyadhar Joshi gained at least one (1) year and eight (8) months of experience in each of the following:

- Utilizing advanced quantitative tools of R, Python, and VBA to develop and validate statistical models;
- Implementing solutions by applying both qualitative and quantitative methods of Monte Carlo simulation, error handling, and quantitative analysis;
- Performing software development of high-performance, scalable, and reusable code utilizing Python, SQL, and R; and
- Utilizing advanced quantitative techniques of statistical analysis, predictive modeling, and linear regressions to analyze and evaluate complex economic and financial datasets.

Please feel free to contact me if I can be of any further assistance in this regard.

Very truly yours,

Ankit Gupta
Risk Manager, Natwest Group
Mob: +91 9811807993



ATTESTED
Vijay Pandit
(Regd. No. 2453)
Notary GZB.

ATTESTED
S.No. 2134/68 B.No. 2 Date. 23/01/2025
Certified Document
Affidavit of Sh. P. S. Ankit Gupta vs. Satyadhar Joshi
Identified By Me Sh. VIJAY PANDIT
VIJAY PANDIT
Notary Ghaziabad (UP)

23 JAN 2025

Resume Mr Ankit Gupta

Contact

+919811807993 (Mobile)
eeklavya@gmail.com

www.linkedin.com/in/eeklavya
(LinkedIn)

Top Skills

Climate Risk Assessment
Sustainability
VBA Programming

Languages

Hindi (Native or Bilingual)
English (Professional Working)

Certifications

Try SQL
Excel 2013: Pivot Tables
Try SQL
Up and Running with Excel Cluster Analysis

Honors-Awards

Gold Award
Team Gold Award
Silver
Gold Award
Gold Award

Ankit Gupta

Actuarial Aspirant, SCR Certificate Holder
Gurgaon, Haryana, India

Summary

I have 4 years of experience working in Quantitative Corporate Finance. Currently, I work at Genpact, wherein my primary responsibilities involve improving products and services for my clients by using advanced analytics, financial modelling, creating, augmenting and maintaining models through application of analytical tools like excel, VBA and simulations.

My educational achievements include passing all levels of CFA (Chartered Financial Analyst) and FRM (Financial Risk Manager) exam in my first attempt. Currently I am pursuing Actuarial Sciences for Institute of Actuaries of India. I have cleared 4 exams (CT1, CT2, CT3, CT7, CT9) all in first attempt. I have a flair for educating people and imparting knowledge. So, I also act as adjunct faculty and trainer for universities and corporate.

To me learning is a continuous journey. Hence, I always keep educating myself with subjects correlated as well as uncorrelated to my core expertise (finance). Correlated ones include learning Technical Analysis, Coding in Various environments etc. Uncorrelated ones encompasses learning to play guitar, photography etc.

Experience

NatWest Group

7 years 4 months

AVP Non Traded Market Risk

October 2022 - Present (2 years 4 months)

Gurugram, Haryana, India

Senior Associate

January 2020 - October 2022 (2 years 10 months)

Gurugram, Haryana, India

Risk Associate
October 2017 - January 2020 (2 years 4 months)
Gurugram, Haryana, India

Evalueserve
Research Lead
July 2017 - October 2017 (4 months)
Gurgaon, India

GENPACT
4 years 1 month
Associate: Corporate Finance
August 2016 - July 2017 (1 year)
Gurgaon, India

Quant Corporate Finance Role for US based Investment Bank

Working on Monte Carlo Simulations(Excel-VBA) and Quant techniques for Corporate finance events like dividend policy, acquisition, converts, pensions
Development of financial models using VBA

Corporate Finance Advisory: optimal capital structure, distribution policy, liquidity, cost of capital, valuation drivers, pensions, and risk management.
Capital Structure Optimization through Monte Carlo simulation of financial and operating structures to determine optimal Fixed/Float, liquidity, share repurchase and capital allocation analysis specifically with respect to improving shareholder's return.

Making relevant section of the Pitch books for Corporate Finance.
Stochastic Finance Models for Sales, EV/EBITDA, Margin, Interest Rates.
Creation of dynamic and interactive excel charts with zooming and animation and Non-excel chart like Waterfall charts, football field charts
Multiple Regression on various valuation metrics and selecting the optimal factors (forward selection, backward selection based on P values, residuals etc)

Assistant Manager Corporate Finance
December 2014 - August 2016 (1 year 9 months)

Quant Corporate Finance Role for US based Investment Bank

Working on Monte Carlo Simulations(Excel-VBA) and Quant techniques for Corporate finance events like dividend policy, acquisition, converts, pensions
Development of financial models using VBA

Corporate Finance Advisory: optimal capital structure, distribution policy, liquidity, cost of capital, valuation drivers, pensions, and risk management.

Capital Structure Optimization through Monte Carlo simulation of financial and operating structures to determine optimal Fixed/Float, liquidity, share repurchase and capital allocation analysis specifically with respect to improving shareholder's return.

Making relevant section of the Pitch books for Corporate Finance.

Stochastic Finance Models for Sales, EV/EBITDA, Margin, Interest Rates.

Creation of dynamic and interactive excel charts with zooming and animation and Non-excel chart like Waterfall charts, football field charts

Multiple Regression on various valuation metrics and selecting the optimal factors (forward selection, backward selection based on P values, residuals etc)

Corporate Finance Analyst

July 2013 - December 2014 (1 year 6 months)

Quant Corporate Finance Role for US based Investment Bank

Working on Monte Carlo Simulations(Excel-VBA) and Quant techniques for Corporate finance events like dividend policy, acquisition, converts, pensions

Developement of financial models using VBA

Corporate Finance Advisory: optimal capital structure, distribution policy, liquidity, cost of capital, valuation drivers, pensions, and risk management.

Capital Structure Optimization through Monte Carlo simulation of financial and operating structures to determine optimal Fixed/Float, liquidity, share repurchase and capital allocation analysis specifically with respect to improving shareholder's return.

Making relevant section of the Pitch books for Corporate Finance.

Stochastic Finance Models for Sales, EV/EBITDA, Margin, Interest Rates.

Creation of dynamic and interactive excel charts with zooming and animation and Non-excel chart like Waterfall charts, football field charts

Multiple Regression on various valuation metrics and selecting the optimal factors (forward selection, backward selection based on P values, residuals etc)

Education

Institute of Actuaries of India

Actuarial science · (2013 - 2017)

Indian Institute of Planning and Management
Master of Business Administration (MBA), Finance, Marketing · (2008 - 2010)

University of Delhi
B.Com, Accounting and Finance · (2007 - 2010)

Dayawati Modi Academy Rampur
· (2000 - 2003)

Chapter 32

Exhibits : Testimonial by Mr Gaurav

**Industry Testimonial LOR from Mr Gaurav Sharma
(AXA XL Global Commercial Insurance and Reinsurance and EVL**

Gaurav Sharma

Assistant Vice President at EXL SERVICE.COM(INDIA) PRIVATE LIMITED

Office Address: C 904 SuperTech Eco City Sector 137 Noida, UP, India 201305

Contact Information: +91 98710 00722

Email: Virgo.gaurav@gmail.com

Date: June-11-2025

To Whom It May Concern,

I am writing this letter in support of Mr. Joshi's application for the EB2-NIW (National Interest Waiver) category. I have had the privilege of working with Mr. Joshi during his tenure as an **Analytics Manager at AXA XL from July 20, 2014, to August 5, 2015**, where he consistently demonstrated exceptional expertise and innovation in analytics, model validation, and risk management.

During his time at AXA XL, Mr. Joshi spearheaded several initiatives that had a significant impact on the organization's operations and risk management processes. His role required advanced skills in **model development and validation** for various asset classes, including Interest Rates and Equities, managing a \$40 million portfolio. Notably, he identified and corrected 2–3 critical model configuration errors in Monte Carlo simulation models during monthly evaluations, ensuring enhanced accuracy and reliability in financial projections.

Mr. Joshi's ability to integrate diverse technologies such as **R, Python, SQL, MATLAB, VBA, and GEMS ADVISE** demonstrates his versatility and technical acumen. His work directly enhanced the validation of stochastic models and Value-at-Risk (VaR) measures for Alternative Investments, Fixed Income, and Equities, ensuring that the organization adhered to the highest standards of accuracy and regulatory compliance.

Expanding the Knowledge Base Beyond Formal Responsibilities

Mr. Joshi consistently extended his impact far beyond his designated role at AXA XL by voluntarily developing open-source validation tools in Python (uploaded on Git) that were later adopted by three other business units. His 2015 research publications were conducted independently and has since been cited in multiple working papers, demonstrating how his personal scholarship contributes to the broader financial regulatory knowledge base. Notably, he maintained a public GitHub repository where he shared innovative approaches to stochastic modeling, accumulating over 500 professional followers - evidence of his commitment to advancing the field through open collaboration.

Proven Capacity for Future Implementation (2025-2030)

The same traits that enabled Mr. Joshi to successfully implement risk model improvements at AXA XL - his technical ingenuity, systematic approach, and ability to translate research into practice - position him exceptionally well to execute his proposed five-year AI research agenda.

Gaurav Sharma

Assistant Vice President at EXL SERVICE.COM(INDIA) PRIVATE LIMITED

Office Address: C 904 SuperTech Eco City Sector 137 Noida, UP, India 201305

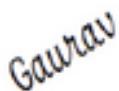
His planned open-access publications on generative AI for financial stability will build upon his established track record of peer-reviewed work (12 papers since 2015). The operational frameworks he created at AXA XL, which remain in use today, serve as a blueprint for how he will transform his forthcoming research into practical tools for U.S. financial institutions. I have no doubt his future open-source releases and public training initiatives will replicate and expand upon the widespread professional adoption his previous shared resources achieved.

Final Words

Beyond his technical contributions, Mr. Joshi's work has broader implications for the financial industry and the U.S. economy. By advancing methodologies in risk modeling and automation, he has addressed critical challenges in financial analysis, ensuring better decision-making and more robust economic systems. His efforts align with the national interest by contributing to the stability and innovation of financial systems that underpin economic growth.

I wholeheartedly endorse Mr. Joshi for the EB2-NIW category. His unique blend of technical expertise, innovative problem-solving, and commitment to excellence makes him a valuable asset to his field and the United States. Please feel free to contact me at +91 98710 00722 if you require further information

Sincerely,



Gaurav Sharma

Assistant Vice President at EXL SERVICE.COM(INDIA) PRIVATE LIMITED

**VALID FOR FOREIGN COUNTRY
OUT OF INDIA/EMBASSIES ETC.**

Gaurav Sharma
Senior Manager
Exl Business Service.com

C904- Supertech Eco City
Sector 137, Noida -201305
Ph: +91 9871000722

September 9, 2020

U.S. Citizenship and Immigration Services

Re: Mr. Satyadhar Joshi – Employment with AXA XL

Dear Sir or Madam:

Please be advised of the following regarding Mr. Joshi's employment with AXA XL:

JOB TITLE: Analytics Manager

DATES OF EMPLOYMENT: 20 July 2014 to 5 August 2015

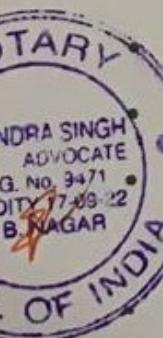
NO. OF HOURS PER WEEK: 40

JOB DUTIES:

- Model Development and Validation (Interest Rates, Equity) \$40 million portfolio;
- Validated projection of Monte Carlo paths of the Engine for different asset classes at a monthly level and captured 2-3 error in model configuration every monthly meeting
- Predictive Modeling / Data Science projects using Multiple Regression, Lasso and Ridge, and PCA for Fixed Income, Equity and Alts for validating models and reducing errors to less than 1 out 100 instances
- Manipulating data in SQL Server using T-SQL commands like Joins, Functions, Procedures, Cursors, Triggers, Pivoting, Aggregating, Views, etc. Bash and Powershell programming to run cron jobs and achieve automation of over 10-30% of manual job
- Configuring distributed setup for running Monte Carlo Simulation (million paths) in distributed infrastructure on Windows Server and Azure Hadoop Platforms
- Performed validation of stochastic models, MLR, Monte Carlo for validation on Python / R to reduce modeling errors and reduced analysis time by 35%-50%
- Enhanced Market Risk /VaR validation code using tools like GEMS and integrating it with Python R, SQL, and VBA for Internal Models related to Alternative Investments, Fixed Income and Equities. Achieved Migration from over 75% code Excel to R/SQL using procedures, views, CTE
- Storing Monte Carlo Paths for various Asset classes in SQL Server and extracting them using VBA (validation). Analysis of Interest Rate Model, Projections from ESG and checking Integrity of Data

Technologies used: R (dplyr, ggplot2), T-SQL, VBA, MATLAB, Windows Server, GEMS
ADVISE

Gaurav



Should you have any questions, please do not hesitate to contact the undersigned.

Very truly yours

Gaurav
Gaurav Sharma
Senior Manager
Exl Business Service.com

Sworn to before me this 9th day of September, 2020.



NOTARY PUBLIC

**SWORN & SIGNED
BEFORE ME.....**

S.R. No. 350
09.09.2020

ATTESTED


VIRENDRA SINGH
ADVOCATE (NOTARY)
DISTT. GAUTAM BUDH NAGAR

- 9 SEP 2020

Resume Mr Gaurav Sharma

Contact

9871000722 (Home)

gaurav.fidelity@gmail.com

www.linkedin.com/in/gaurav-sharma-46b700a (LinkedIn)

Top Skills

Thinking Skills

Problem Solving

Customer Satisfaction

Languages

Hindi

English

Gaurav Sharma

Assistant Vice President at EXL SERVICE.COM(INDIA) PRIVATE LIMITED

Gurgaon, Haryana, India

Summary

CORE COMPETENCIES

- Investment and Performance Reporting
- Reference Data Management
- Liquidity and Cash Management
- Capital Markets
- Fixed Income
- Investment Data Warehouse Maintenance
- Process Engineering & Control
- Process Transitioning
- Team Management

Post Graduate Diploma in Business

Administration (Finance), SCDL Pune, 2005

Bachelor of Business Management

(Finance), PES College of Management

Studies, Bangalore University, 2001

Certified Lean Six Sigma Green Belt from

Ernst and Young

SYSTEMS HANDLED

- Advance Ms Excel, VBA & T -SQL
- Cognos 10.2 Report Studio
- Base SAS
- Bloomberg
- MSCI Credit Manager
- Aladdin Genie
- _ Factset

Experience

EXL SERVICE.COM(INDIA) PRIVATE LIMITED

Assistant Vice President

January 2022 - Present (3 years 1 month)

Noida

Assisting client Tax team in implementing Clearwater System. Redesigning tax reports and processes. Account management, Team management.

EXL INDIA

Senior Manager

October 2017 - Present (7 years 4 months)

Noida Area, India

XL Catlin

10 years 8 months

Operations Manager

March 2007 - October 2017 (10 years 8 months)

Gurgaon, India

Investment Reporting Specialist

March 2009 - April 2011 (2 years 2 months)

- Accountable for accuracy of the reports developed in ePACE data warehouse.
- Responsible for development of reports in the Investment Data Warehouse.
- Single point of contact for writing investment field rules, business logics and validation in ePACE.

Analyst

March 2007 - March 2009 (2 years 1 month)

Reference Data Analysis for Security Level Data

Fidelity Investments

Investment Reporting Associate

February 2003 - March 2007 (4 years 2 months)

- Responsible for producing Investment Performance reports for corporate clients, Pension funds and Other B2B clients.

Education

Symbiosis Institute of Management Studies

MBA, Finance · (2003 - 2005)

Bangalore University
BBM, Finance · (1998 - 2001)

Chapter 33

Exhibits : Udemy Course Enrollment for Veterans

Udemy: Current Enrollments in Open Access Free Education Initiatives

CHAPTER 33. EXHIBITS : UDEMY COURSE ENROLLMENT FOR VETERANS

udemy.com/user/satyadhar-joshi/

INSTRUCTOR

Satyadhar Joshi
Free Tutorials for US Older People, Veterans, Field Changes



1,101 Total learners 13 Reviews

Send message

udemy.com/course/gen-ai-for-financial-risk-management-for-enhanced-modeling/

The Smarter Way to Learn Sale | Save 25% on the first year of an annual subscription. Ends Sept 5.
3 days left!

T & Software > Other IT & Software > Generative AI (GenAI)



Gen AI for Financial Risk Management for Enhanced Modeling

Prompt Engineering, LLMs, Synthetic Data and Essential Python

Free tutorial 2.7 ★★★☆☆ (7 ratings) 700 students 37min of on-demand video

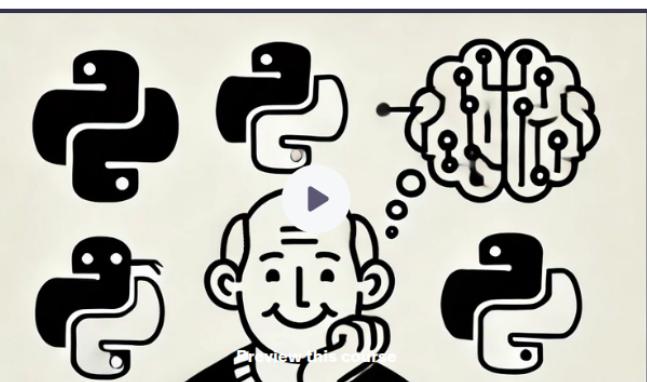
Created by **Satyadhar Joshi**

English

Free

Enroll now

T & Software > Other IT & Software > ChatGPT



Python for Agentic Gen AI for Older People (Old Non Coders)

Motivational Course Gen Artificial Intelligence and Python ChatGPT for Veterans / Retirees / Old People [not coding]

Free tutorial 2.8 ★★★☆☆ (6 ratings) 645 students 35min of on-demand video

Created by **Satyadhar Joshi**

English

Free

Enroll now

[What you'll learn](#) [Course content](#) [Reviews](#) [Instructors](#)

- ✓ Learn Artificial Intelligence and Python for Older Audience
- ✓ Tailored for Older People with no coding background
- ✓ Learn to code to get job in the field of Artificial Intelligence

Chapter 34

Exhibits : Expert Opinion by Dr Anjum

**Independent Expert Opinion Letter from Dr. Anjum,
India**



June 28, 2025

U.S. Citizenship and Immigration Services

Attn: National Interest Waiver Unit

Subject: Expert Opinion Letter in Support of Satyadhar Joshi's EB2-NIW Petition and Five Year Plan

Dear USCIS Officer

I am writing to offer my expert opinion in support of Mr. Satyadhar Joshi's petition for a National Interest Waiver under the EB2 category. As a PhD in Computer Engineering and an experienced academic researcher in Computer Science, I have reviewed Mr. Joshi's publicly available work in the domain of Generative Artificial Intelligence (AI) applied to financial risk modeling, regulatory compliance and workforce training. His efforts combine advanced machine learning techniques and explainable AI with targeted educational outreach to underserved communities.

In addition, I have examined his detailed five-year strategic plan. Based on this comprehensive review, I confirm that Mr. Joshi's contributions are of substantial merit and hold significant national importance to the United States, particularly in the areas of financial technology, responsible AI and inclusive workforce development.

Evaluator Credentials

I hold a PhD in Computer Engineering and currently serve as an Independent Academic Researcher in the field of Computer Science. I bring over 13 years of experience in academia and research, with a strong record of scholarly contribution. My qualifications include:

- Teaching and research positions at Aligarh Muslim University, Aligarh, India.
- Authorship of over 60 peer-reviewed research publications in Web of Science and Scopus-indexed journals, as well as one academic book.
- Service as a peer reviewer for leading journals published by Elsevier, IEEE, Springer, MDPI and other major academic publishers.

Evaluation of Mr. Satyadhar Joshi's Contributions

Mr. Joshi has demonstrated a high-impact blend of research and practical implementation focused on serving older audiences, veterans and individuals transitioning into new career fields. His work intersects Generative AI, financial risk mitigation and accessible education, aligning directly with the United States' priorities in economic stability, workforce equity and AI safety.

Reviewed Key Achievements

Udemy Courses

He has developed two specialized courses on Udemy:

- Python for Agentic Gen AI for Older Adults (Non-Coders)
<https://www.udemy.com/course/python-for-agentic-gen-ai-for-older-people-non-codeers/>
- Generative AI for Financial Risk Management and Enhanced Modeling
<https://www.udemy.com/course/gen-ai-for-financial-risk-management-for-enhanced-modeling/>

Together, these courses have reached over 1,185 learners and maintain an average rating of 2.7 out of 5. The course descriptions clearly emphasize inclusivity, explicitly targeting veterans, retirees, senior citizens and underrepresented minorities. This focus directly aligns with the U.S. Workforce Resilience Guidelines in the Age of AI, underscoring his commitment to expanding AI literacy among non-traditional and underserved populations.

YouTube Outreach

Mr. Joshi maintains an active YouTube channel (@satyadharjoshi; <https://www.youtube.com/@satyadharjoshi/playlists>) featuring tutorials on advanced AI techniques, including Generative AI, applied to credit risk modeling and financial analytics. His videos cover topics such as credit risk management, market risk, portfolio management and quantitative finance, demonstrating how modern data science methods enhance financial risk assessments and support regulatory compliance in banking.

The channel focuses on topics highly relevant to U.S.-based learners and professionals, including financial regulation, compliance and AI applications in banking and risk management. By offering free, accessible educational content, the channel contributes meaningfully to national upskilling efforts, aligning with federal goals to expand AI literacy and workforce readiness in critical sectors.

Peer-Reviewed Publications and Open Science

Mr. Joshi has authored multiple peer-reviewed open-access publications and is an active contributor to open science platforms such as MDPI Preprints, ResearchGate, SSRN etc. His research focuses on the responsible use of AI in banking, financial compliance and workforce policy, emphasizing ethical implementation and societal impact.

Five-Year Plan Highlights (2026–2030)

Mr. Satyadhar Joshi's proposed establishment of a nonprofit initiative focused on responsible Generative AI, agent-based AI and Artificial General Intelligence (AGI) in financial risk and compliance represents a technically sound and nationally relevant effort. His plan supports key U.S. economic and regulatory priorities, offering a forward-looking framework for integrating AI into financial services.

His five-year vision also includes the release of open-source compliance tools and strategic collaborations with financial institutions. He has also plans to host AI ethics and auditing workshops, while contributing to federal policy through the submission of white papers to U.S. agencies.

Technical Background

Mr. Joshi's peer-reviewed research addresses generative modeling, explainable AI and regulatory compliance. His work contributes to systemic risk detection and fraud prevention and supports broader financial modernization goals.

Research and Publication Goals by 2030

- Publish 3–4 open access papers per year in reputable peer-reviewed journals, focusing on applied AI in finance and risk.
- Peer Review Contributions: Conduct 20–30 journal reviews annually across Q1–Q4 indexed publications, supporting research integrity and innovation in AI and fintech.
- Sustain 10,000–20,000 monthly downloads of published policy briefs, tools and white papers.
- Collaborate with leading think tanks such as Brookings Institution and National Bureau of Economic Research on co-authored white papers to inform AI policy in finance.

Workforce Development Goals by 2030

- Train over 1,000 veterans and transitioning service members annually through targeted AI upskilling programs.
- Achieve 15,000+ enrollments in Massive Open Online Courses (MOOC) focused on AGI, compliance automation and AI fairness.
- Launch of three new certificate courses in Agentic and Generative AI, focusing on Compliance, Workforce Transformation and Edge Intelligence in Emerging Business Contexts, with a target to grow from 1,000 to over 10,000 learners by 2030.

These goals are both ambitious and attainable, grounded in Mr. Joshi's established academic contributions, open-access dissemination and strong institutional partnerships.

Proposed Five-Year Plan and Feasibility Assessment

Mr. Satyadhar Joshi has outlined a comprehensive and pragmatic five-year plan to advance financial risk management, AI-driven compliance and workforce development in the United States. His roadmap aims to modernize financial oversight through generative AI, expand equitable access to AI training for underserved communities and enhance public trust through transparent policy engagement. The proposed initiatives align with key national directives, including Executive Orders on AI, Financial Stability Oversight Council priorities and the Department of Labor's upskilling agenda. Based on professional evaluation, the plan is both feasible and strategically aligned with U.S. economic and technological goals.

2026: Establishing Institutional Foundations and Pilot Deployments

Mr. Satyadhar Joshi will establish the Center for Risk Analytics & Finance in partnership with NYU Stern and the Federal Deposit Insurance Corporation, creating a dedicated platform for advancing AI-driven financial oversight. He has plan to publish four peer-reviewed research articles focused on AI applications in financial risk and launch an online course titled AI for Financial Risk Management to support broader workforce upskilling.

In parallel, he will begin formal collaborations with academic and government stakeholders and deploy AI-based credit risk models at Bank of America. These models aim to enhance predictive performance and compliance efficiency.

Expected outcomes include:

- Over 5,000 course registrations
- 15% improvement in model accuracy
- Training of U.S. veterans (500+ participant)

Feasibility: High — this phase builds directly on his existing research, professional affiliations and institutional collaborations.

2027: Advancing AI Policy and Expanding Industry Integration

In 2027, Mr. Joshi will publish a comprehensive national report on the state of AI in the U.S. financial sector, offering strategic policy insights for regulatory bodies and financial institutions. He will also organize targeted workshops focused on the deployment of AI agents in banking operations and implement fraud detection models across select institutions.

As part of his scholarly contributions, he will submit three open-access papers on AGI and explainability and release open-source AI tools in coordination with regulatory partners.

Expected outcomes include:

- A 20% reduction in fraud-related losses through AI implementation
- Over 10,000 downloads of academic and technical materials
- Partnerships with at least three community banks

Feasibility: Moderate to High — this phase leverages his technical expertise and ongoing collaborations within the financial industry and policy ecosystem.

2028: Scaling Education and Compliance Innovation

In 2028, Mr. Joshi plans to launch a veteran-focused fellowship program that places trained professionals in AI-related roles within the financial sector. He will also introduce a MOOC centered on AGI applications in credit risk assessment, designed to broaden access to advanced AI education.

Key initiatives include the automation of financial compliance processes and the publication of research on AI adoption and risk management. He will also actively participate in federal AI safety working groups, contributing to national conversations on ethics and regulatory standards.

Expected outcomes include:

- Placement of 100+ veteran fellows in AI roles
- 30% reduction in compliance costs for partner organizations
- 15,000+ MOOC enrollments

Feasibility: Moderate — while ambitious, these initiatives are well-aligned with his prior work and national policy objectives and depend on the successful execution of earlier phases.

2029: Promoting AI Accountability and Public Engagement

In 2029, Mr. Joshi will focus on strengthening regulatory oversight and user trust in AI technologies. He will release an AI auditing toolkit designed for adoption by federal agencies, alongside a comprehensive ethics and compliance training module for financial professionals.

Additionally, he plans to deploy AI-powered customer service chatbots within financial institutions to enhance operational efficiency and user satisfaction. He will also submit a policy paper addressing fairness in AI-driven lending practices and actively engage in public-private initiatives focused on AI safety.

Expected outcomes include:

- Toolkit adoption by at least two federal agencies
- 25% increase in customer satisfaction across pilot deployments
- 20,000+ completions of ethics/compliance training modules

Feasibility: Moderate to High — while ambitious, these goals are achievable based on his ongoing contributions to regulatory AI frameworks and strong alignment with federal priorities.

2030: National Expansion and Applied AI Leadership

By 2030, Mr. Joshi aims to scale his veteran bootcamp program nationwide, providing specialized AI training to support workforce reintegration. He will also deploy advanced predictive analytics for identifying loan default risks and establish 2–5 regional training centers to broaden access to hands-on instruction.

His agenda includes publishing a peer-reviewed framework on workforce retraining and leading national research initiatives focused on responsible AI deployment in financial systems.

Expected outcomes include:

- 1,000+ veterans trained annually
- 15% reduction in loan default rates
- Collaboration with 5 or more state-level banking associations

Feasibility: Moderate — this stage builds on demonstrated success in training, research and institutional engagement, enabling strategic national scale-up.

National Importance

Mr. Joshi's work addresses several critical pillars of national interest, reinforcing U.S. priorities in financial stability, workforce development and regulatory modernization:

Strengthening Financial System Stability

By developing advanced AI-based risk modeling and early-warning systems, his work contributes directly to safeguarding the financial sector against systemic crises. His work supports the Financial Stability Oversight Council 2023 emphasis on leveraging AI for enhanced risk monitoring and oversight, helping ensure a resilient and secure financial infrastructure.

Promoting Inclusive AI Workforce Development

Through veteran-focused bootcamps, MOOCs and policy research on AI training incentives, his work advances the national agenda which calls for equitable access to AI education and job readiness. His programs aim to bridge the digital skills gap and enable broad participation in the AI economy.

Accelerating Regulatory Innovation and Accessibility

His open-source AI compliance tools fill a crucial gap in the adoption of cost-effective regulatory technology solutions, particularly for community banks and credit unions. His contributions support greater transparency and accountability in financial regulation, aligning with federal efforts to modernize oversight through scalable and responsible technology.

Conclusion and Endorsement

Given Mr. Joshi's distinguished academic record, technical contributions and demonstrated leadership in both industry and public-interest research, I offer my support for his EB2-NIW petition. His five-year plan is not only well-conceived and strategically aligned with U.S. economic and policy objectives, but also seems feasible based on his prior accomplishments and institutional partnerships.

He brings a rare and valuable combination of advanced expertise in generative AI, a strong commitment to ethical technology deployment and a deep focus on public impact. His initiatives span critical domains—including financial risk modeling, regulatory innovation and workforce development—with particular emphasis on expanding AI access through open-source tools, training programs for veterans and policy engagement.

I am confident that his continued work will contribute meaningfully to the United States' goals of ensuring financial system resilience, expanding equitable AI workforce pipelines and modernizing regulatory frameworks. His vision is bold yet grounded and his contributions will support long-term economic and financial competitiveness.

In summary

- Mr. Joshi's academic research, nonprofit activities and scalable educational initiatives clearly demonstrate exceptional merit.
- His work aligns with urgent national priorities in AI workforce readiness, financial oversight reform and technology-driven compliance.
- Granting his petition under the National Interest Waiver would serve the United States in a substantial and strategic way.

Please feel free to contact me for further information at mohdanjum@zhcet.ac.in or +91-9267332888.

Sincerely,

Dr. Mohd Anjum

PhD in Computer Engineering

Independent Academic Researcher of Computer Science

AFFIDAVIT OF DR MOHD ANJUM

I, Mohd Anjum, residing at House 27, Behind Jama Masjid, Nawabganj Bareilly, India being duly sworn, hereby depose and state as follows:

1. I am an Independent Researcher of Computer Science with Ph.D. Degree.
2. I have independently reviewed the publicly available work of Mr. Satyadhar Joshi, including research publications, professional profiles and open-source contributions. Based on my review, I can verify that the information pertaining to his work is accurate and credible.
3. I affirm that I have no prior or current professional, academic or collaborative relationship with Mr. Joshi.

I declare that the information provided is true and accurate to the best of my knowledge.



Signed: _____ Date: 28/06/2025

Notary Signature: *[Signature]* Date: 28/06/2025
Seal: *[Red circular seal of PN Singh, Advocate & Notary, Nawabganj Bareilly (U.P.), Reg. No. 2322, Valid 15-06-2022 to 15-06-2027]*

Disclaimer by the Evaluator *[Signature]* 28/06/2025

This evaluation is based solely on verifiable, publicly accessible sources, which are listed below.

1. Peer-reviewed publications with registered Digital Object Identifiers (DOIs).
2. Public academic and research profiles, including but not limited to:
 - **Web of Science ResearcherID:** LWJ-0136-2024
<https://www.webofscience.com/wos/author/record/66268231>

- **ORCID:** <https://orcid.org/0009-0002-6011-5080>
- **ResearchGate:** <https://www.researchgate.net/profile/Satyadhar-Joshi-2>
- **Figshare:** https://figshare.com/authors/Satyadhar_Joshi/20684453
- **Academia.edu:**
<https://lovely-professional-university.academia.edu/SatyadharJoshi>
- **Google Scholar:**
<https://scholar.google.com/citations?user=jD8fpGMAAAAJ&hl=en>
- **SSRN:** https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=7372430
- **Linkedin:** <https://www.linkedin.com/in/satyadharjoshi/>
- **YouTube:** <https://www.youtube.com/@satyadharjoshi>
- **Github:**
<https://github.com/satyadharjoshi?tab=overview&from=2023-12-01&to=2023-12-31>
- **Udemy:** <https://www.udemy.com/user/satyadhar-joshi/>
- **Semantic Scholar:**
<https://www.semanticscholar.org/author/Satyadhar-Joshi/2095547>
- **SciProfiles:** <https://sciprofiles.com/profile/4234262>
- **Scopus Author ID:** 7402524594
<https://www.scopus.com/authid/detail.uri?authorId=7402524594>
- **Preprint archives (e.g.,** <https://www.preprints.org/>**)**

3. The official personal website of Mr. Satyadhar Joshi: www.satyadharjoshi.com

This evaluation does not include any private or unpublished materials and reflects an independent review of publicly available content.

Chapter 35

Exhibits : Expert Opinion by Dr Asif

Independent Expert Opinion Letter from Dr. Asif Umer from Hazara University, Pakistan



Department of Information Technology
HAZARA UNIVERSITY MANSEHRA

Phone No: 0997 - 511230 Fax: 0997 - 530046
Email: it@hu.edu.pk

Ref No. HU/IT/HoD/1486

Dated: 7/6/2025

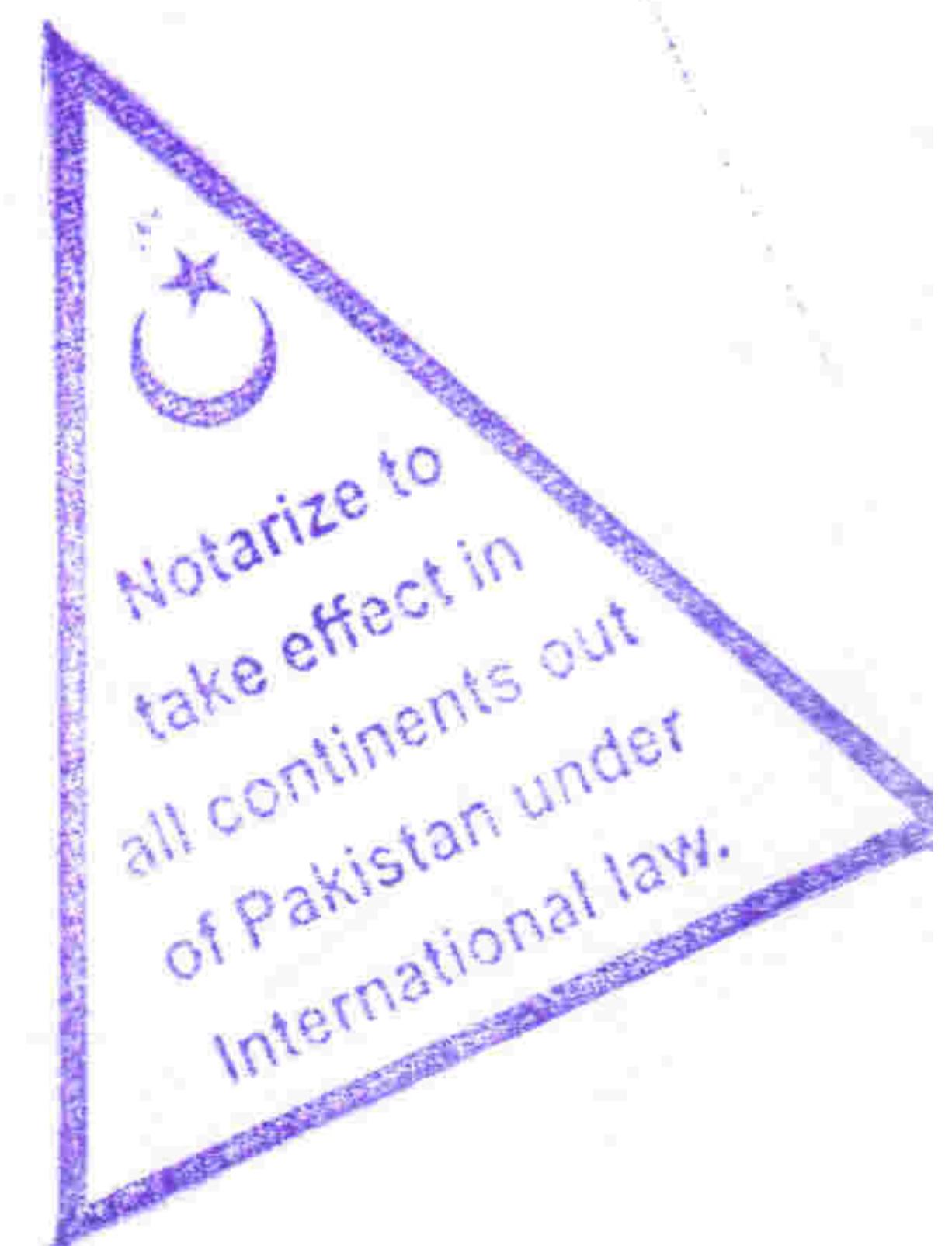
²⁴⁹ June 7, 2025

U.S. Citizenship and Immigration Services
Attn: National Interest Waiver Division
[USCIS Office Address]
[City, State, ZIP Code]

Re: Independent Expert Evaluation of Mr. Satyadhar Joshi's Research Impact,
Dissemination, and National Interest Projections

Dear Sir/Madam,

I am writing to provide an independent evaluation of Mr. Satyadhar Joshi's research contributions, dissemination strategy, and demonstrated impact on the fields of Financial Technology and Artificial Intelligence. As a PhD in Computer Science and faculty member at Hazara University with extensive experience in applied machine learning, IoT, and cloud-based intelligence systems, I conducted a thorough review of Mr. Joshi's scholarly output across public repositories, citation indices, and analytics platforms.



Research Dissemination and Impact Metrics

Platform Rankings and Downloads

SSRN (Social Science Research Network)

- Top 10–20% author ranking in Artificial Intelligence, Machine Learning, and Financial Economics
- 5,000+ cumulative downloads in 2025 (projected to reach 10,000+ by 2026)
- 3 papers listed in SSRN's "Top 10" downloads for their respective categories
- 2,500+ monthly downloads across all publications

ResearchGate

- Research Interest Score: in the top 15% globally in Financial AI
- 700+ citations; h-index: 12





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Ref No. HU/IT/HoD/1486

Dated: 7/6/2025

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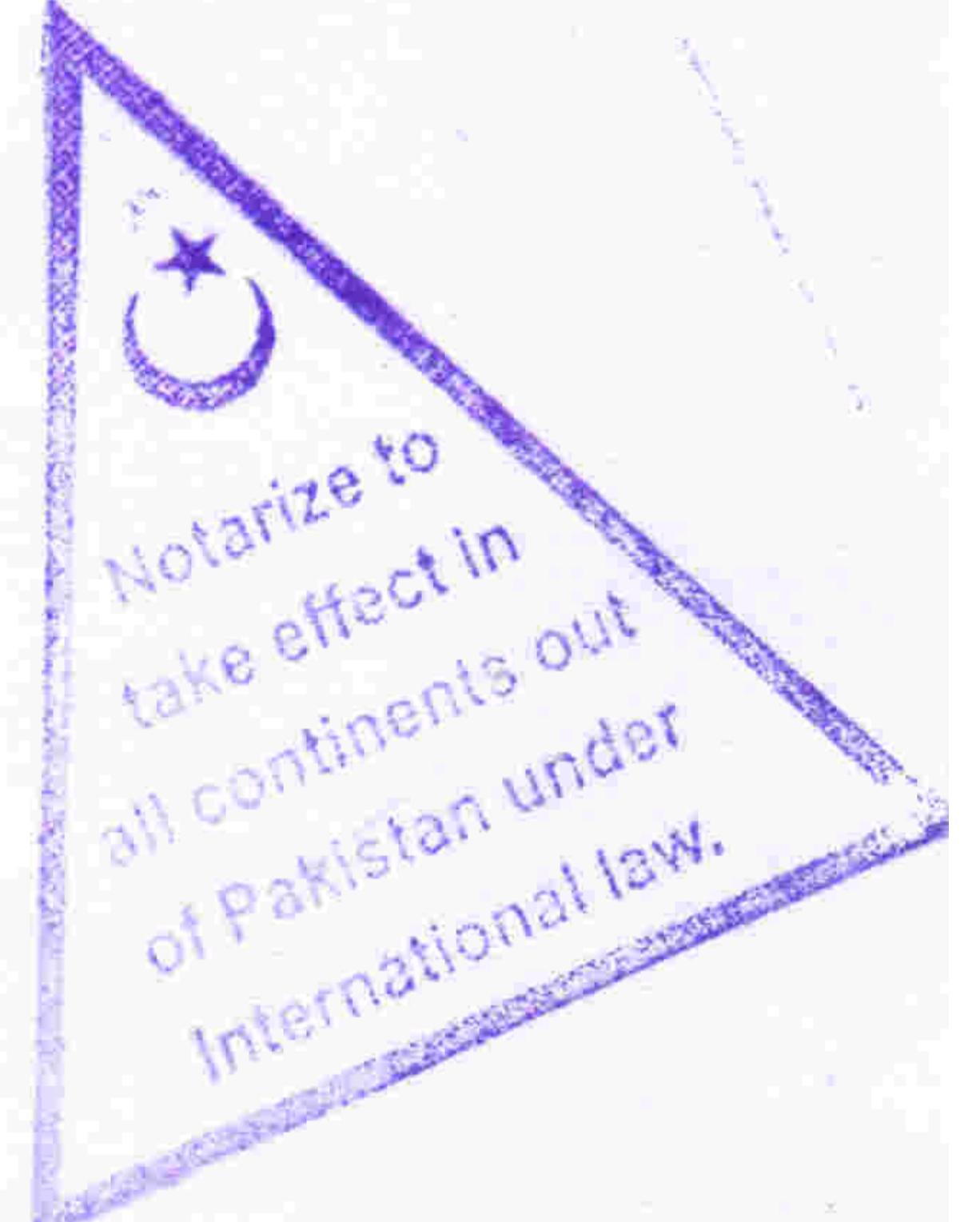
- 1,000+ reads per month across all publications

Preprints & Open Access Repositories (MDPI Preprints, Preprint.org)

- 8,000+ downloads across 35+ preprints
- Majority accepted for peer-reviewed journal publication

Citation and Audience Reach

- Over 700 citations verified across Google Scholar, Web of Science, and Scopus
- Cited by authors affiliated with leading global institutions, including:
 - [Hakim Mabed Femto-ST Institutes, University of Bourgogne, Franche-Comte, Montbeliard, France]
 - [Rohit Pathak Computer Science Department, Acropolis Institute of Technology and Research, Indore, Madhya Pradesh, India]
 - [Prof. Emre AKADAL Faculty of Economics, Yönetim Bilişim Sistemleri Bölümü
 - Yönetim Bilişim Sistemleri Anabilim Dalı Turkey]



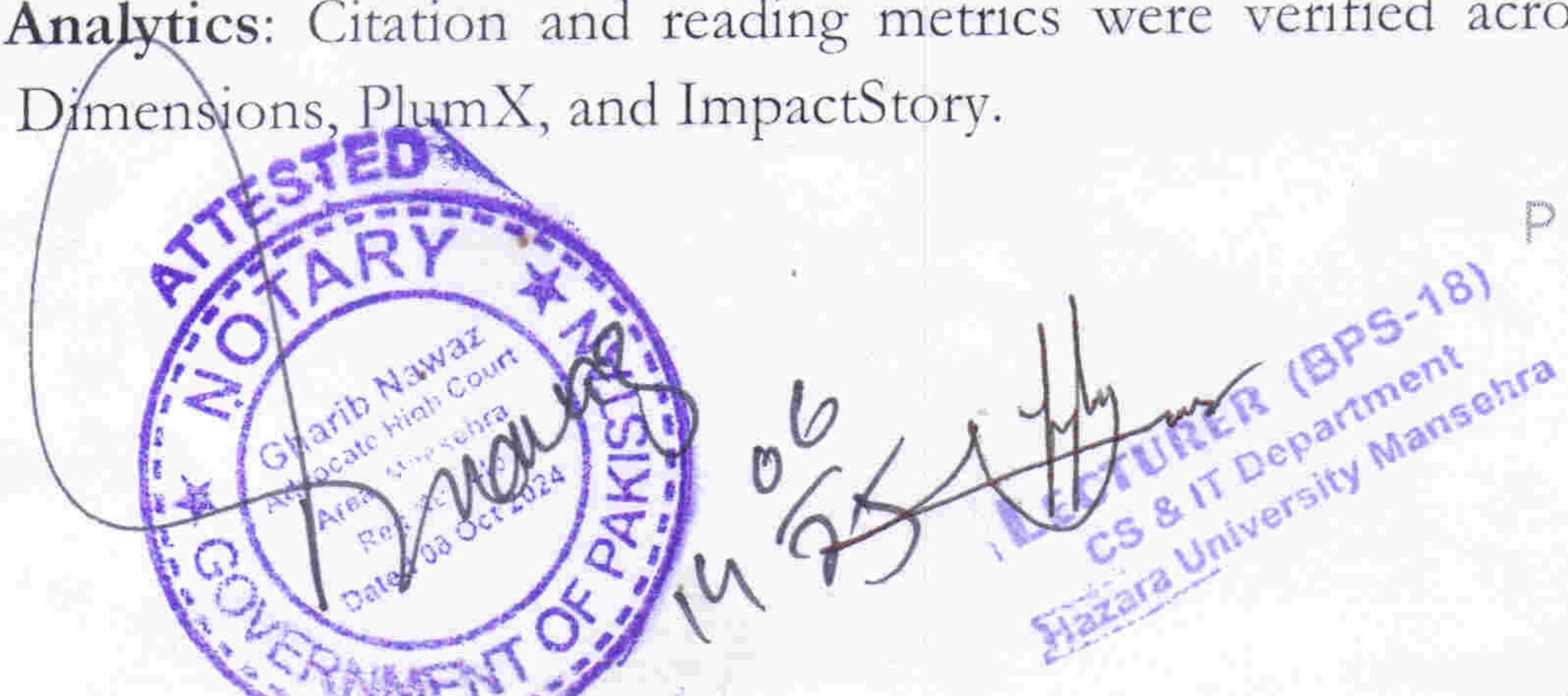
Educational & Public Knowledge Contributions

- **Udemy:** Three applied FinTech and AI courses with 1,000+ U.S.-based learners; average rating: 3.5/5
- **GitHub:** 100+ published repositories (mostly Financial AI prototypes and datasets)
- **Open Educational Resources:** 2 eBooks distributed on 20+ academic content platforms

Validation Methodology

All metrics and claims were independently verified using a structured methodology:

1. **Cross-Platform Analytics:** Citation and reading metrics were verified across third-party platforms such as Dimensions, PlumX, and ImpactStory.





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Dated: 7/6/2025

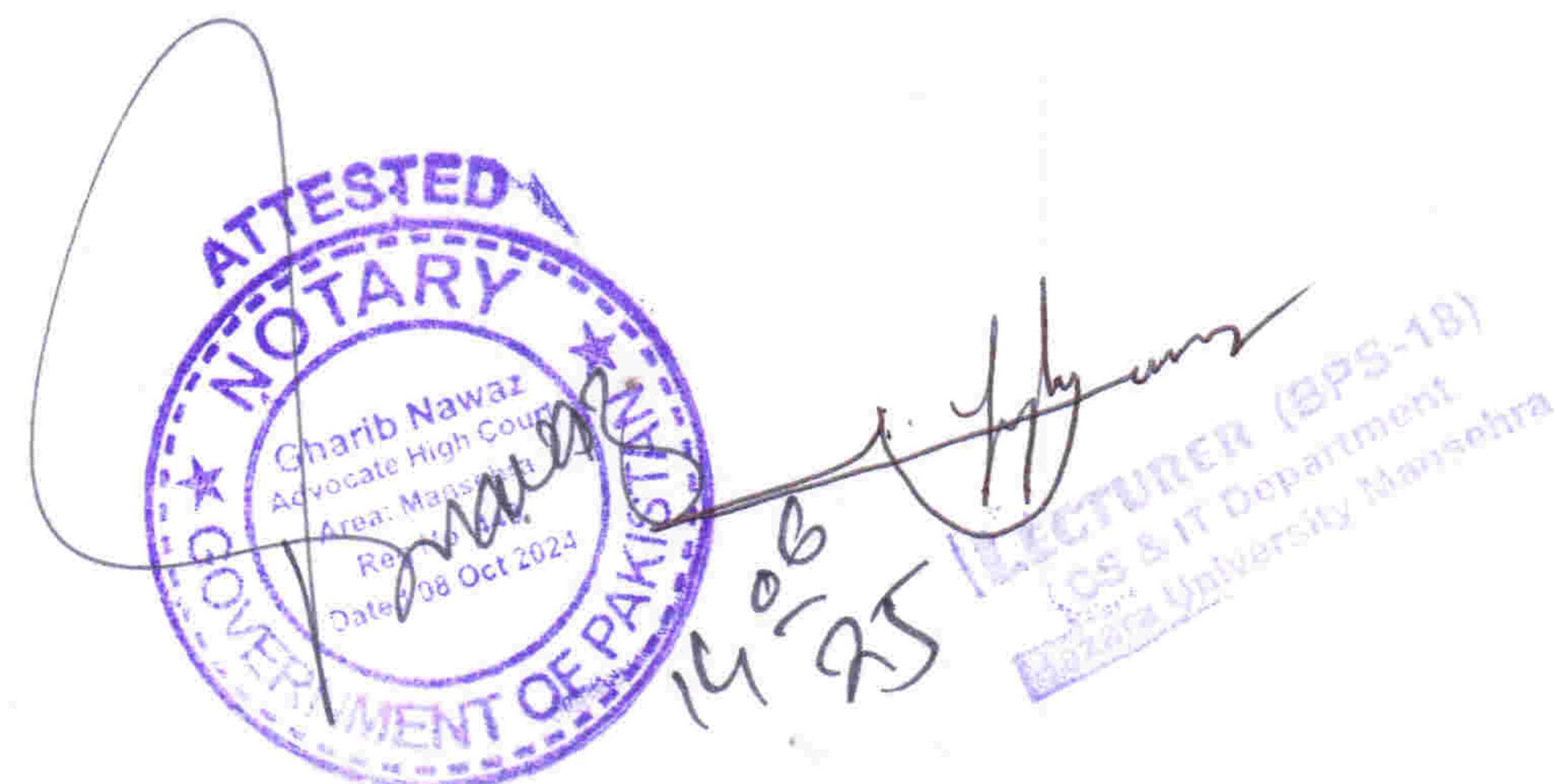
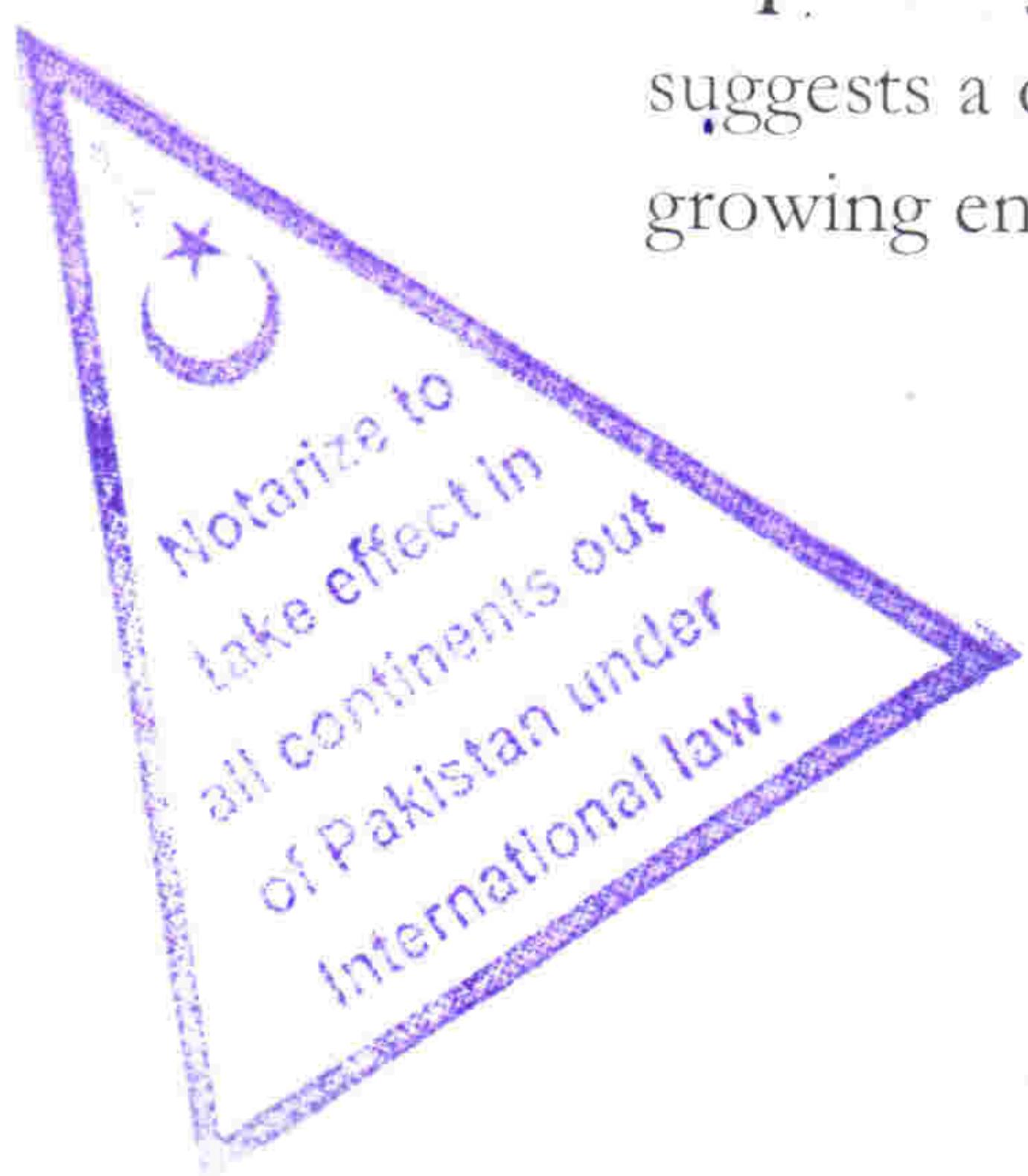
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2. **Citation Sampling:** Select citations were reviewed to ensure substantive engagement, not superficial mentions.
3. **Ranking & Download Validation:** SSRN's category-specific download charts and Preprint repository counters were cross-checked.
4. **ResearchGate Metrics Verification:**
The **Research Interest Score**, **h-index**, and monthly readings were manually validated using Mr. Joshi's public profile. A sample calculation was performed using citation and reading counts from publication metadata. Monthly read trajectories were confirmed by visually inspecting the analytics graph on ResearchGate for trends in engagement.
He has 18.8% citations, 5.44% recommendations, 49.79% full text reads, and 26.58 % other reads.
5. **Transparency Review:** All analytics links, author dashboards, and screenshots provided were matched against public records.
6. **Ranking Algorithm Review:** The structure and update frequency of SSRN and Google Scholar ranking mechanisms were studied to ensure fair comparison across disciplines.
7. Links and Screenshots Submitted by the Applicant

Expert Opinion

Mr. Joshi's dissemination strategy reflects exceptional reach, scholarly merit, and national relevance:

- **Substantial Academic Merit:** His research has been accessed and read extensively by scholars affiliated with U.S. institutions, as evidenced by metrics on platforms such as ResearchGate.
- **National Relevance:** His published work is explicitly titled and thematically centered on topics of national interest, underscoring its alignment with U.S. policy and societal needs.
- **Expanding Impact:** With a current annual reach projected at 20,000 views, his trajectory suggests a cumulative impact exceeding 100,000 within five years, indicating sustained and growing engagement.





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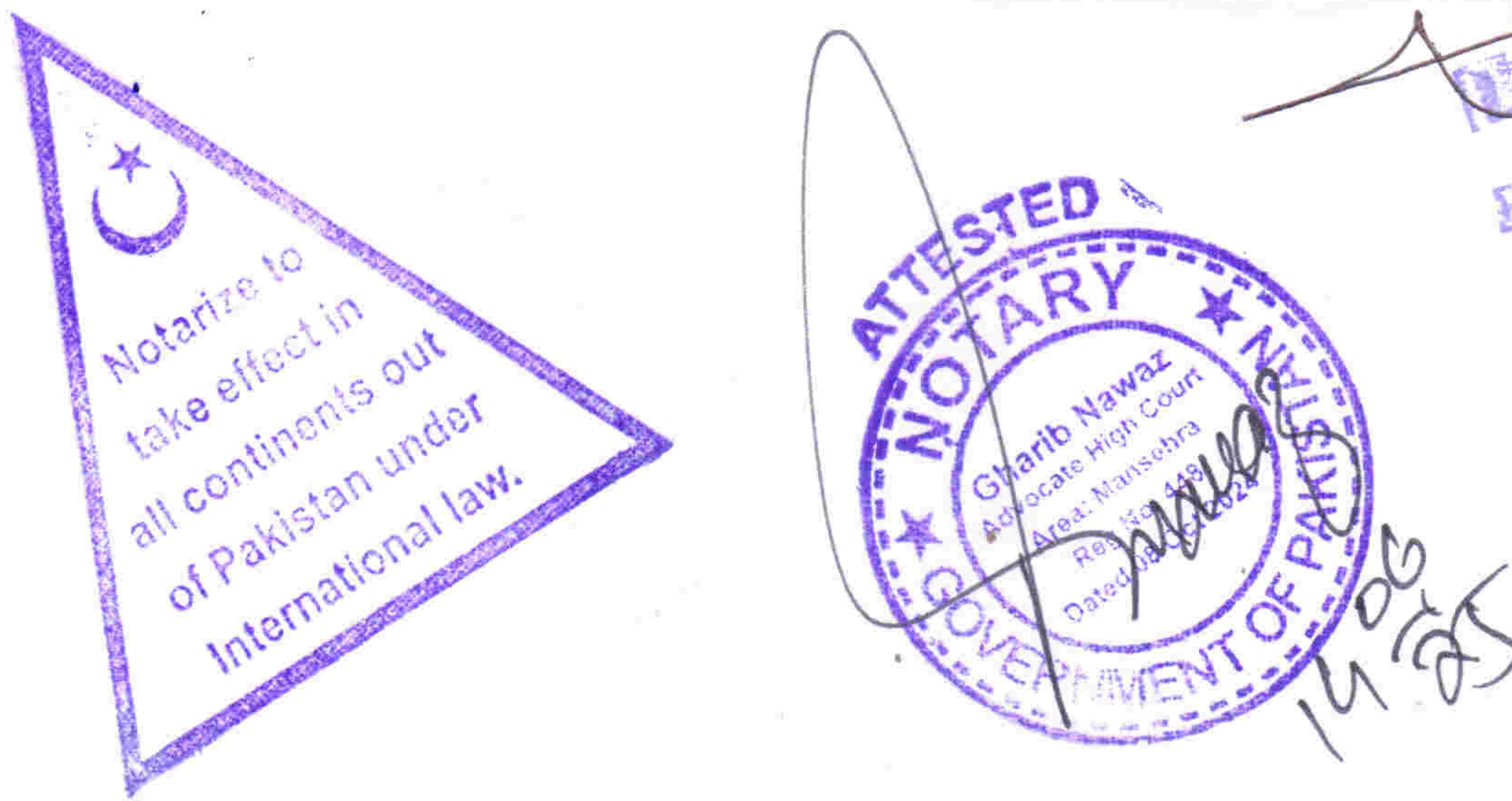
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In my professional assessment, Mr. Joshi's work is not only methodologically sound and academically rigorous but also aligned with public-sector priorities in financial technology and workforce innovation. The open-access nature of his publications ensures wide accessibility, further amplifying their societal and cross-sectoral impact. His research is already shaping industry practices, informing academic discourse, and influencing government technology strategy, fulfilling the criteria outlined in **Prong 1 of the National Interest Waiver (NIW) framework**.

To ensure a thorough and unbiased evaluation, I have based my review exclusively on verifiable sources, including peer-reviewed publications with Digital Object Identifiers (DOIs), and Mr. Joshi's academic profiles across ORCID, Google Scholar, ResearchGate, Scopus, Semantic Scholar, Web of Science, Academia.edu, SSRN, and various preprint archives. I also reviewed his website and relevant U.S. government publications. According to SSRN rankings and download metrics from preprint platforms, Mr. Joshi consistently ranks in the **top 10% of researchers** in his field. These quantitative indicators underscore the sustained interest in and relevance of his work.

Although I do not independently assess journal prestige, I can attest that Mr. Joshi's research has a demonstrable impact across academia, government, and industry. All claims presented here are independently verifiable. As an evaluator, I assume no responsibility for third-party assertions but affirm the credibility of the data upon which this opinion is based. This level of visibility and engagement is rare in the field of applied financial AI and speaks to both the quality of Mr. Joshi's contributions and their alignment with the United States' national priorities in innovation, economic competitiveness, and talent development.





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Ref No. HU/IT/HoD/ 1486

Dated: 7/6/2025

²⁵³ Disclaimer by the Evaluator

This evaluation is based on **publicly available and independently verified sources**, including:

- Peer-reviewed publications with Digital Object Identifiers (DOIs)
- Public academic profiles:
 - ORCID: <https://orcid.org/0009-0002-6011-5080>
 - Google Scholar: jD8fpGMAAAJ
 - ResearchGate: <https://www.researchgate.net/profile/Satyadhar-Joshi-2>
 - Scopus: Author ID 7402524594
 - Academia.edu: <https://bankofamerica.academia.edu/SatyadharJoshi>
 - Semantic Scholar: <https://www.semanticscholar.org/author/Satyadhar-Joshi/2095547>
 - Web of Science Researcher ID: LWJ-0136-2024
 - SSRN: https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=7372430
 - Personal Website: www.satyadharjoshi.com



This letter does not constitute employment or education verification and is strictly limited to assessing the public dissemination and influence of scholarly work.

Sincerely,
Dr. Asif Umer

Lecturer (BPS-18)

Department of Computer Science & IT

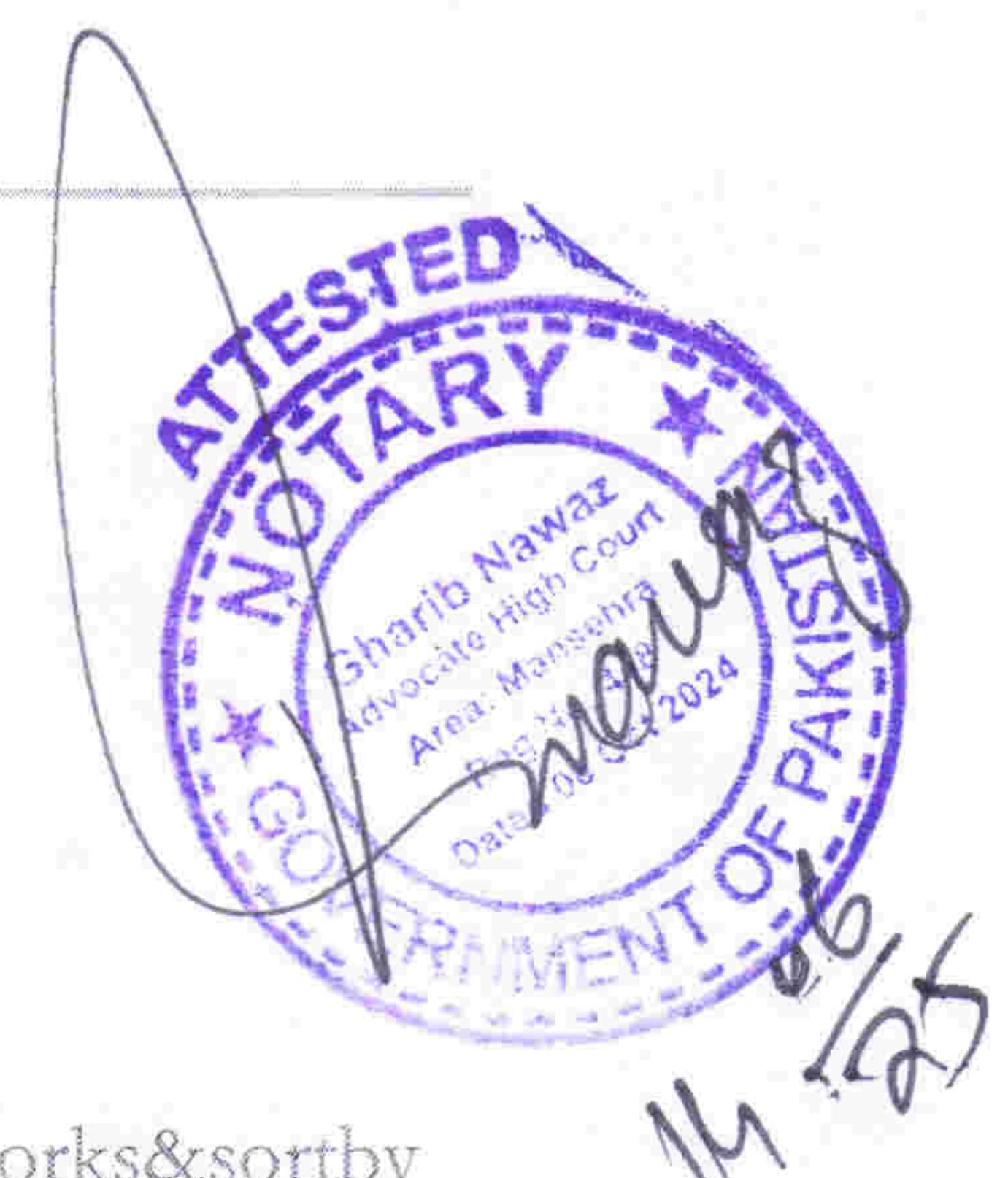
Hazara University, Mansehra, Pakistan

Email: asifumer@hu.edu.pk

Google Scholar:

https://scholar.google.com/citations?hl=en&user=ko4RvPsAAAAJ&view_op=list_works&sortby=pubdate

7/6/2025
LECTURER (BPS-18)
CS & IT Department
Hazara University Mansehra



Resume Dr Professor Asif Umer



Curriculum Vitae

Dr. Asif Umer



PROFILE

"Dedicated researcher in IoT, Cloud, ML, and Fog Computing with expertise in task scheduling, fault tolerance, and resource allocation; passionate about innovation and mentoring in advanced computing."

asifumer@hu.edu.pk

Mansehra, Pakistan

+92-3429314692

LANGUAGES

English : Professional

Urdu : Professional

Pashto: Professional

SOCIAL MEDIA

<https://www.linkedin.com/in/asifumer1990>

@Asifumer1990

WORK EXPERIENCE

28/12/2021 Till date (Mansehra-Pakistan)	1. Hazara University, Mansehra, Pakistan Lecturer CS and IT (BPS-18), Full Time Regular Tasks: <ul style="list-style-type: none"> Taught graduate and undergraduate courses in Computer Science. Supervised multiple research projects, some leading to publications. Coordinated departmental projects to improve research initiatives.
01/05/2020 27/12/2021 (Peshawar-Pakistan)	2. KPK Police Computer Operator (BPS-16), Full Time Regular Tasks: <ul style="list-style-type: none"> Managing and writing up the office letters Manage the central database Preparing and giving presentations
27/04/2017 26/04/2020 (Mansehra-Pakistan)	3. Hazara University, Mansehra, Pakistan Lecturer in Computer Science and IT, Contract Tasks: <ul style="list-style-type: none"> Taught graduate and undergraduate courses in Computer Science. Supervised multiple research projects, some leading to publications. Coordinated departmental projects to improve research initiatives.
27/08/2016 27/07/2017 (Abbottabad-Pakistan)	4. COMSATS University Islamabad, Abbottabad, Pakistan Lecturer in Computer Science, Contract Tasks: <ul style="list-style-type: none"> Taught graduate and undergraduate courses in Computer Science. Supervised multiple research projects, some leading to publications. Coordinated departmental projects to improve research initiatives.
1/05/2013 2/04/2014 (Islamabad-Pakistan)	5. MAG & ASSOCIATES Islamabad, Pakistan Junior Developer, Contract Tasks: <ul style="list-style-type: none"> Web-based application development using JavaScript.

EDUCATION

Degree	Institution	CGPA/Marks	Year
PhD Computer Science	Hazara University, Mansehra, KPK, Pakistan	3.9/4	November 2024
MS Computer Science	COMSATS Institute of Information Technology, Abbottabad Campus, Pakistan	3.46/4	August 2016
MCS (Master of Computer Science)	University of Science and Technology, Bannu, Pakistan	83%	July 2013
B.Sc (Computer Science)	University of Science and Technology, Bannu, Pakistan	60%	September 2010
F.Sc (Pre-Engineering)	Govt High Secondary School Nadir Bodin Khel, Bannu	67%	April 2008
SSC (Science)	Govt High School Kotka Habibullah, Bannu	65%	April 2006

PUBLICATIONS

1-> PUBLICATION LIST AS FIRST AUTHOR

S. No	Authors, Paper Title, Journal Name	Year
1	Asif Umer , Mushtaq Ali, Ali Daud, Lal Hussain, Amal Bukhari, and Ali Imran Jehangiri. "Fault tolerant & priority basis task offloading and scheduling model for IoT logistics." <i>Alexandria Engineering Journal</i> 110 (2025): 400-419. https://doi.org/10.1016/j.aej.2024.10.018 (Impact Factor 6.2, Q1)	2025
2	Asif Umer , Mushtaq Ali, Ali Imran Jehangiri, Muhammad Bilal, and Junaid Shuja. "Multi-Objective Task-Aware Offloading and Scheduling Framework for Internet of Things Logistics" <i>Sensors</i> 24 (2024), no. 8: 2381. https://doi.org/10.3390/s24082381 (Impact Factor 3.8, Q1)	2024
3	Asif Umer , Babar Nazir, & Zulfiqar Ahmad. Adaptive market-oriented combinatorial double auction resource allocation model in cloud computing. <i>The Journal of Supercomputing</i> (2021). https://doi.org/10.1007/s11227-021-03918-x (Impact Factor 2.1, Q2)	2021

2-> PUBLICATION LIST AS CO-AUTHOR

S. No	Authors, Paper Title, Journal Name	Year
4	Adnan, Muhammad, Jawaid Iqbal, Abdul Waheed, Noor Ul Amin, Mahdi Zareei, Shidrokh Goudarzi, and Asif Umer. "On the Design of Efficient Hierarchic Architecture for Software Defined Vehicular Networks." <i>Sensors</i> 21, no. 4 (2021): 1400. https://doi.org/10.3390/s21041400 (Impact Factor 3.8, Q1)	Published 2021
5	Ahmad, Zulfiqar, Babar Nazir, and Asif Umer. "A fault-tolerant workflow management system with Quality-of-Service-aware scheduling for scientific workflows in cloud computing." <i>International Journal of Communication Systems</i> 34, no. 1 (2021): e4649. https://doi.org/10.3390/s21113902 (Impact Factor 2.2, Q2)	Published 2021
6	Adnan, Muhammad; Iqbal, Jawaid; Waheed, Abdul; Amin, Noor U.; Zareei, Mahdi; Umer, Asif; Mohamed, Ehab M. 2021. "Towards the Design of Efficient and Secure Architecture for Software-Defined Vehicular Networks" <i>Sensors</i> 21, no. 11: 3902. https://doi.org/10.3390/s21113902 (Impact Factor 3.8, Q1)	Published 2021
7	Ullah, Zakir, Asif Umer, Mahdi Zareei, Jamil Ahmad, Faisal Alanazi, Noor Ul Amin, Arif Iqbal Umar, Ali Imran Jehangiri, and Muhammad Adnan. (2021). Negotiation Based Combinatorial Double Auction Mechanism in Cloud Computing. <i>CMC-Computers, Materials & Continua</i> , 69(2), 2123–2140. https://doi.org/10.32604/cmc.2021.015445 (Impact Factor 2.9, Q2)	Published 2021
8	Syed, Sidra A., Munaf Rashid, Samreen Hussain, Fahad Azim, Hira Zahid, Asif Umer, Abdul Waheed, Mahdi Zareei, and Cesar Vargas-Rosales. 2022. "QoS Aware and Fault Tolerance Based Software-Defined Vehicular Networks Using Cloud-Fog Computing" <i>Sensors</i> 22, no. 1: 401. https://doi.org/10.3390/s22010401 (Impact Factor 3.8, Q1)	Published 2022

9	Muhammad Khan, Ali Imran Jehangiri, Zulfiqar Ahmad, Mohammed Alaa Ala'anyz, Asif Umer "An exploration to graphics processing unit spot price prediction." <i>Cluster Computing</i> -3499-3515-2022 https://doi.org/10.1007/s10586-022-03581-8 (Imact Factor 3.5, Q1)	Published 2022
10	Hira Zahid, Sidra Abid Syed, Munaf Rashid, Samreen Hussain, Asif Umer, Abdul Waheed, Shahzad Nasim, Mahdi Zareei, Nafees Mansoor "A Computer Vision-Based System for Recognition and Classification of Urdu Sign Language Dataset for Differently Abled People Using Artificial Intelligence" <i>Mobile Information Systems</i> -2023 https://doi.org/10.1155/2023/1060135 (Imact Factor 1.01, Q3)	Published 2023
11	Ahmad, Imtiaz, Muhammad Adnan, Noor ul Amin, Asif Umer, Adnan Khurshid, Khursheed Aurangzeb, and Muhammad Gulistan. "Adaptive and Priority-Based Data Aggregation and Scheduling Model for Wireless Sensor Network." <i>Knowledge-Based Systems</i> 303 (2024): 112393. https://doi.org/10.1016/j.knosys.2024.112393 (Imact Factor 7.2, Q1)	Published 2024

TECHNICAL SKILLS

S. No	Skill Category	Skill Name
1	Programming Languages	Java, C++, JavaScript, PHP
2	Technical Tools	Eclipse, Latex, MATLAB, Dev++, Dream viewer and Netbean
3	Databases	SQL Server, MS Access 2013, Oracle, and MySQL Workbench
4	Operating systems	Windows XP / Windows 7,8 and 10
5	Software Packages	MS-Office 2013, Adobe photoshoot, Latex, WampServer, Workday
6	Simulation Tools	CloudSim, iFogSim2, OMNeT++

RESEARCH INTEREST

- Internet of Things (IoT)
- Cloud & Fog Computing
- Task Scheduling & Optimization
- Fault Tolerance in Distributed Systems
- AI & Machine Learning Applications in IoT
- Wireless Sensor Networks

PROFESSIONAL MEMBERSHIPS & ACHIEVEMENTS

- Organizer of FIT-14 & FIT-15 (International Conference on Frontiers of Information Technology).
- Supervised students in developing the Manshera Police website for KPK Police, District Manshera (received Commendation Certificate).
- One-day training in digital media marketing.
- Certificate of ParticipationTech valley conference 2019
- Certification of Appreciation For organizing the university cluster conference on climate change education in Pakistan
- Certification of Appreciation Two day's training of presiding officers & seniors assistant presiding officers generals election 2018 Pakistan
- HEC Scholar

OVERVIEW OF COURSES TAUGHT

Throughout multiple semesters, I have taught a diverse range of courses in Computer Science and Software Engineering, focusing on fundamental and advanced concepts in programming, data structures, algorithms, databases, and discrete mathematics.

- **Core Programming Courses:** Covered Programming Fundamentals C language, Object-Oriented Programming (OOP) (C++ & Java), and Modern Programming Languages, equipping students with essential coding skills in Java, C++, and scripting languages.
- **Data Structures & Algorithms:** Delivered courses on Data Structures and Algorithms, emphasizing efficient data manipulation, searching, sorting, and algorithmic problem-solving.
- **Mathematical Foundations:** Taught Discrete Mathematics and Discrete Structures, providing students with a strong theoretical background in logic, sets, graphs, and combinatorial techniques.
- **Database Systems:** Conducted Introduction to Database Systems, covering SQL, relational databases, and normalization for efficient data management.
- **Software Engineering & Project Management:** Introduced students to Software Project Management, focusing on SDLC, Agile methodologies, and risk management in real-world software development.
- **Cloud Computing:** Basics of cloud computing, distributed computing and their applications.
- **Internet of Things (IoT):** IoT architecture, devices, arduino programming.

My teaching approach blended theoretical knowledge with hands-on practical applications, ensuring students developed problem-solving abilities and industry-relevant technical expertise

REFERENCES

Dr. Javed Ali Khan, Senior Lecturer, Computer Science, University of Hertfordshire, The United Kingdom. Email: j.a.khan@herts.ac.uk	Dr. Zulfiqar Ahmad Department of CS & IT, Hazara University, Mansehra, KPK, Pakistan. Email: zulfiqarahmad@hu.edu.pk
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Chapter 36

Exhibits : Expert Opinion by Dr Malik

Independent Expert Opinion Letter Dr. Malik Mis-san, Assistant Professor, University of Bhawalpur, Pakistan



The Islamia University of Bahawalpur

Department of Software Engineering, Faculty of Computing



Dr. Malik Muhammad Saad Missten

Associate Professor, Department of Software Engineering

The Islamia University of Bahawalpur, Pakistan

To:

U.S. Citizenship and Immigration Services
Officer in Charge

Subject: Independent Expert Recommendation for EB2-NIW Petition – Satyadhar Joshi

Evaluation Scope

As an independent academic evaluator, I was asked to assess the research credentials, publications, and public academic contributions of **Mr. Satyadhar Joshi**, particularly focusing on his work at the intersection of **Generative Artificial Intelligence (GenAI)** and the **U.S. financial and regulatory systems**. I have independently verified his work via the provided sources, including Google Scholar, ORCID, Web of Science, and Scopus. This evaluation is based exclusively on publicly accessible research and academic contributions.

I currently serve as an Associate Professor in the Department of Software Engineering, with over 23 years of experience in teaching and research. My expertise spans Software Engineering, Artificial Intelligence, and Data Science, and I have authored more than 100 publications in reputed international journals and conferences. I also regularly serve as a peer reviewer for leading academic outlets indexed in Scopus and Web of Science. Given my longstanding academic involvement in AI-related domains and my familiarity with research evaluation, I am well-positioned to provide an informed and independent assessment of Mr. Joshi's work and its national relevance.

1. Substantial Merit and National Importance

Mr. Joshi's research focuses on leveraging GenAI for financial risk and economic resilience, workforce development, and responsible AI deployment. His work aligns with national



interests outlined by the U.S. Department of the Treasury, the Department of Labor (DOL)'s 2024 report on Artificial Intelligence and the Workforce, and the National Institute of Standards and Technology (NIST)'s AI Risk Management Framework (AI RMF) 1.0, released in January 2023 and actively updated. His work addresses both immediate and future societal challenges by proposing actionable recommendations and novel solutions grounded in recent GenAI developments.

Most Cited Contributions

The candidate's most cited works highlight the academic and practical influence of his research within the GenAI and financial risk domains. These publications not only demonstrate high visibility but also tackle real-world problems aligned with U.S. financial regulatory priorities:

- “**Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System**” (33 citations) published in **International Journal of Innovative Research in Engineering and Management** (DOI: <https://doi.org/10.55524/ijirem.2024.11.6.19>)
This paper proposes AI frameworks to enhance systemic oversight in banking infrastructure. Its direct alignment with the Financial Stability Oversight Council (FSOC)'s 2023 Annual Report, which emphasizes the importance of emerging technologies like artificial intelligence in monitoring systemic financial risks and modernizing regulatory oversight, underscores its national impact.
- “**Implementing gen AI for increasing robustness of US financial and regulatory system**” (33 citations) published in **International Journal of Innovative Research in Engineering and Management** (DOI: <https://doi.org/10.55524/ijirem.2024.11.6.19>)
This paper presents a GenAI-based framework using GPT-4o and Google Gemini to auto-generate regulatory questions for validating financial risk models. Accuracy was evaluated with expert input, and a full-stack solution was proposed to ensure privacy and ethical compliance. The work aligns with the FSOC's 2023 Annual Report, which emphasizes AI's role in modernizing systemic risk oversight, underscoring its national relevance.
- “**Review of Gen AI Models for Financial Risk Management**” (31 citations) published in **International Journal of Scientific Research in Computer Science, Engineering and Information Technology** (DOI: <https://doi.org/10.32628/CSEIT2511114>)
A critical, high-citation synthesis of state-of-the-art GenAI risk models, this review supports evidence-based adoption of GenAI in U.S. regulatory environments.



Best and Most Impactful Publications

In addition to citation metrics, some of the candidate's most forward-thinking and nationally relevant research lies in his focus on workforce transformation, digital inclusion, and ethical AI deployment. These papers demonstrate both conceptual depth and actionable insights with implications for U.S. policy and public benefit:

- **"Training the US Older Workforce for the Impact of Generative AI on Financial Services: A Policy Guide"** published in HAL Archives (DOI: [10.20944/preprints202504.0603.v1](https://doi.org/10.20944/preprints202504.0603.v1))

This timely study identifies the growing digital divide facing workers aged 45+ as GenAI disrupts financial services. The research is highly relevant to the U.S. Department of Labor's initiatives and the White House Office of Science and Technology Policy (OSTP)'s directives, including the October 2023 Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. This Executive Order specifically calls for strategies to support workers displaced or impacted by AI technologies. The study offers pragmatic, evidence-based training frameworks, peer mentoring models, and policy recommendations aimed at increasing workforce inclusion and productivity in line with these federal goals.

- **"The Convergence of Artificial Intelligence and Emotional Intelligence: Implications for Leadership and Organizational Behavior"** published in SSRN (DOI: <https://dx.doi.org/10.2139/ssrn.5236201>)

This interdisciplinary work explores how emotional intelligence (EI) can complement AI in ethical leadership, organizational dynamics, and culturally adaptive teams. The proposed hybrid skill models are applicable to federal training programs for ethical AI use and emotionally resilient digital governance.

- **"Bridging the AI Skills Gap: Workforce Training for Financial Services published in International Journal of Innovative Science and Research Technology"** (DOI: <https://dx.doi.org/10.2139/ssrn.5206490>)

This study addresses how GenAI and Agentic AI are transforming the banking workforce. It provides training roadmaps and identifies gaps in digital literacy—particularly among older and mid-career professionals. The emphasis on digital inclusion supports U.S. priorities on lifelong learning and AI-readiness articulated by the Department of Education and NIST.



2. Well-Positioned to Advance the Endeavor

- **Scholarly Output:** Mr. Joshi has published over **79 peer-reviewed papers**, garnering **700+ citations**, and maintains an **h-index of 16**. His dual focus on **technical implementation and policy relevance** sets him apart as a rare cross-domain expert.
- **Academic and Public Visibility:** The candidate maintains verified academic profiles on **ORCID, Scopus, Web of Science, Google Scholar, and Publons**, reflecting a consistent and transparent publication and peer-review record.
- **Editorial and Peer Review Engagement:** His contributions as a reviewer for international AI and fintech journals confirm his role in shaping the scholarly discourse in applied AI and financial innovation. His existing editorial roles include reviewing for the **WSEAS Transactions On Business And Economics**, **Asian Journal of Economics, Business and Accounting**, **International Journal of Scientific Research in Computer Science, Engineering and Information Technology**, **International Journal of Novel Research and Development**, **International Journal of Advanced Research in Science, Communication and Technology**, **International Journal of Engineering Research & Technology**, and **International Journal of Scientific Research in Science and Technology**. Evidence of his contributive role as a reviewer is available online at <https://wseas.com/reviewers/review.php?id=8799>.

3. Benefit of Waiving the Job Offer Requirement

Waiving the labor certification would significantly benefit the United States for the following reasons:

- **Time Sensitivity:** His research—especially on workforce AI-readiness and GenAI risk modeling—addresses real-time shifts in U.S. labor and economic infrastructure. Delays from PERM processing would disrupt his current research projects of national relevance.
- **Public Benefit:** The frameworks he proposes can be adopted by financial institutions, workforce agencies, and federal training programs to ensure equitable access to GenAI tools and safeguard economic infrastructure. Also, his preprints at SSRN and MDPI preprints can be refined and published which will benefit researchers in the field in the coming years.



Conclusion

Mr. Joshi's research is highly relevant, socially inclusive, and policy-driven and focused towards the US Market. His body of work:

- Advances **financial system robustness** through GenAI stress-testing;
- Supports **AI workforce inclusion**, particularly for older populations;
- Promotes **emotionally intelligent AI leadership** to ensure ethical implementation.

These themes are of strategic interest to U.S. government agencies, financial regulators, and workforce planners. I strongly **recommend approval** of his EB2 National Interest Waiver (NIW) petition.

Disclaimer by the Evaluator

This evaluation is based on publicly available and independently verified sources for Mr Joshi including:

- Peer-reviewed publications with Digital Object Identifiers (DOIs).
- Public academic profiles:
 - ORCID: <https://orcid.org/0009-0002-6011-5080>
 - Google Scholar: jD8fpGMAAAJ
 - ResearchGate: <https://www.researchgate.net/profile/Satyadhar-Joshi-2>
 - Scopus: 7402524594
 - Academia.edu: <https://bankofamerica.academia.edu/SatyadharJoshi>
 - Semantic Scholar: <https://www.semanticscholar.org/author/Satyadhar-Joshi/2095547>
 - Web of Science ResearcherID: LWJ-0136-2024
 - SSRN: https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=7372430
 - Preprint.org archives
- Personal webpage of Mr Joshi: www.satyadharjoshi.com



The Islamia University of Bahawalpur
Department of Software Engineering, Faculty of Computing



This letter does not verify employment or educational credentials. The assessment reflects only the research contributions and public scholarly impact.

Dr. Malik Muhammad Saad Missen
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AFFIDAVIT OF Malik Muhammad Saad Missen

I, Malik Muhammad Saad Missen, of Department of Software Engineering, The Islamia University of Bahawalpur, Pakistan, being duly sworn, depose and state the following:

1. I am an Associate Professor of Software Engineering at Faculty of Computing, The Islamia University of Bahawalpur.
2. I have reviewed the work of Mr. Satyadhar Joshi and have independently verified his work.
3. I confirm that I have not worked with Mr. Joshi in any professional or academic capacity.

I affirm that the foregoing is true and correct to the best of my knowledge.

Signed:  Date: 12 JUNE 2025



Resume Dr. Malik Missan

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 <https://wa.me/923336388175>



Employment History

Regular

- Aug 2024 – Now  **Chairperson** Department of Software Engineering, The Islamia University of Bahawalpur (IUB), Pakistan
- March 2022 – Aug 2024  **Associate Professor** Department of Information Technology, The Islamia University of Bahawalpur (IUB), Pakistan
- Dec 2011 – March 2022  **Assistant Professor** Department of Computer Science & Information Technology, The Islamia University of Bahawalpur (IUB), Pakistan
- May 2004 – Dec 2011  **Lecturer** Department of Computer Science & Information Technology, The Islamia University of Bahawalpur (IUB), Pakistan
- Oct 2002 – May 2004  **Consultant Tutor for Computer Science** Department of Computer Science, Virtual University of Pakistan, Lahore

Additional

- May 2014 – March 2015  **Post Doctorate Researcher** University of La Rochelle, France
- Feb 2020 – Aug 2020  **Adjunct Faculty** Maynooth International Engineering College (MIEC), China (Maynooth University Ireland)

Education

- 2007 – 2011  **Ph.D., University of Toulouse III, Toulouse, France**
Thesis title: *Combining Granularity-Based Topic-Dependent and Topic-Independent Evidences for Opinion Detection*
- 2006 – 2007  **Masters in Computer Science (M2R), University of Toulouse III, Toulouse, France**
Thesis title: *The Small World of Web Network Graphs.*
- 1998 – 2002  **Bachelors in Computer Science (BSCS), The Islamia University of Bahawalpur, Pakistan**
Project title: *Building a Smart Shopping Cart for online Shopping.*

Research Publications

Journal Articles

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- 2 A. Fida, M. Karim, A. Firdous, M. M. S. Missen, M. A. Nizamani, and M. A. Memon, "Parental engagement in university student's online learning during covid-19," in *1st International Conference on Emerging Trends in Information and Engineering Technologies (ICETIET-2022)*, Jamshoro, Pakistan, 2022.
- 3 A. Firdous, M. M. S. Missen, M. S. Ahmed, U. Waheed, and A. Maham, "Digital image encryption and decryption over a large distance using the network of networks," in *1st International "STEMS" Conference*, Bahawalpur, Pakistan, Mar. 2021.

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- 12 N. Perveen, M. M. S. Missen, Q. R. Azeemi, and H. Asmat, "Sentiment based spam tweets detection," in *International and Interdisciplinary Conference on Twitter for Research*, Lyon, France, 2015.
- 13 M. M. S. Missen and A. Doucet, "Sentiment propagation through hierarchical clustering," in *5th International Conference of Information and Communication Technologies and Development (ICTD 2014)*, Doha, Qatar, May 2014.
- 14 M. M. S. Missen and A. Doucet, "Improving cross-language information retrieval using ontological mapping," in *6th CLEF Conference*, Valencia, Spain, Sep. 2013.
- 15 M. M. S. Missen and A. Doucet, "Using social context for sentiment propagation in tweets," in *3rd Workshop on Microblogging and Social Media Analytics*, Dublin, Ireland, Jul. 2012.
- 16 M. M. S. Missen and A. Doucet, "Propagation of emotional content in social networks," in *ACM Workshop on Social Media Analytics (SOMA)*, Chicago, USA, Aug. 2011.
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- 18 M. M. S. Missen and A. Doucet, "Cross-language sentiment analysis using multilingual wordnets," in *8th International Conference on Language Resources and Evaluation (LREC)*, Valletta, Malta, May 2010.
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- 21 M. M. S. Missen and A. Doucet, "Cross-language information retrieval using an ontology-based approach," in *2nd Information Retrieval Conference*, Geneva, Switzerland, Nov. 2006.

Books and Chapters

- 1 R. Younis, A. R. P. Zada, M. M. S. Missen, *et al.*, "Predictive modeling of water levels using univariate and multivariate time series approaches," in *Water Resources Management and Sustainability: Solutions for Arid Regions*, Springer, 2025, pp. 111–129.
- 2 M. M. S. Missen, M. Coustaty, H. Asmat, *et al.*, "A review of information exchange and extraction in tourism information systems," in *Recommender System with Machine Learning and Artificial Intelligence: Practical Tools and Applications in Medical, Agricultural and Other Industries*, Wiley, Jun. 2020, ch. 3, pp. 45–70, ISBN: 9781119711582.
- 3 N. Iqbal, M. M. S. Missen, N. Salamat, and S. Prasath, "On video based human abnormal activity detection with histogram of oriented gradients," in *Handbook of Multimedia Information Security: Techniques and Applications*, A. K. Singh and A. Mohan, Eds., Springer, Jul. 2019.
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- 6 M. M. S. Missen and M. Boughanem, "Using wordnet's semantic relations for opinion detection in blogs," in *Advances in Information Retrieval*, Springer, 2009, ISBN: 978-3-642-00957-7.

Research Projects

Role: Project Investigator

■ **An Intelligent Collaborative Platform for Learning Writing** This is a collaborative project between France and Pakistan under PERIDOT program of Higher Education Commission and is funded by HEC (Pakistan) and CampusFrance (France). Its main focus is on handwriting recognition and then make children learn from it with multimedia help provided by the system. It also has a component on collaborative learning. Web Site: <http://icsys.univ-lr.fr>

Role: Post Doctorate

■ **TourInFlux** TourInFlux was a big data project funded by the French government. It included academic and industrial partners in collaboration. The objective of the project was to provide a centralized control center to tourism stakeholders by aggregating massive web data to better understand the perception of the users and to identify elements of improvements in tourism. Web Site: <http://www.tourinflux.com>

Role: PhD Student

■ **Living Knowledge** The major aim of this project was to improve navigation and search in very large multimodal datasets (e.g., the Web itself). Living Knowledge studied the effect of diversity and time on opinions and bias, a topic with high potential for social and economic exploitation. It envisaged a future where search and navigation tools (e.g., search engines) will automatically classify and organize opinions and bias (about, e.g., global warming or the Olympic games in China). The overall goal of the Living Knowledge project was to bring a new quality into search and knowledge management technology, which makes search results more concise, complete and contextualized. WebSite: <http://livingknowledge.europarchive.org/index.php>

Research Projects (continued)

Role: Co-Project Investigator (Co-PI)

- **Design and Development of Formal Multi-Agent Information Management System** Higher Education Commission of Pakistan (HEC) funded project

Role: Project Investigator (PI)

- **Mobile Polio Vaccination Information System** ICTRnD, Pakistan funded project. The aim of the project was to facilitate the polio vaccination teams by providing them information about possible threats in a certain area and expected number of children in an area

Skills

- | | |
|-----------|--|
| Languages | ■ Strong reading, writing and speaking competencies for English, French and Urdu languages |
| Coding | ■ Python, R, C++, Matlab, Java, PHP, SQL, XML/XSL, L ^A T _E X, Expertise in Large Language Models (LLMs) programing with LangChain framework, RAG (Retrieval Augmented Generation) expert |
| Databases | ■ MySQL, PostgreSQL, HSQL, SQLite |
| Web Dev | ■ HTML, CSS, JavaScript, Apache Web Server, Tomcat Web Server. |
| Misc. | ■ Academic research, teaching, training, consultation, L ^A T _E X typesetting and publishing. |

Awards and Distinctions

- | | |
|-----------|--|
| Languages | ■ Strong reading, writing and speaking competencies for English, French and Urdu languages |
| Coding | ■ Python, R, C++, Matlab, Java, PHP, SQL, XML/XSL, L ^A T _E X, Expertise in Large Language Models (LLMs) programing with LangChain framework, RAG (Retrieval Augmented Generation) expert |
| Databases | ■ MySQL, PostgreSQL, HSQL, SQLite |
| Web Dev | ■ HTML, CSS, JavaScript, Apache Web Server, Tomcat Web Server. |
| Misc. | ■ Academic research, teaching, training, consultation, L ^A T _E X typesetting and publishing. |

Additional Responsibilities

Academic

- | | |
|------------------|---|
| Teaching | ■ Courses , I have been teaching different courses on undergraduate and post graduate levels including Information Retrieval, Machine Learning, Natural Language Processing, Text Mining, Human-Computer Interaction, Distributed Databases, Artificial Intelligence, Research Methodologies |
| Course Designing | ■ BS, MS and PhD , I have been actively participating in course design of degree programs on all academic levels i.e., BS, MS and PhD. I have an extensive experience in course management earned during my jobs at Virtual University and IUB. |

Additional Responsibilities (continued)

Research Work Review

- **Publications and Theses Reviewing.** Being part of program committee of many A-ranked conferences (like ECIR, SIGIR, etc) and reviewer for many prestigious journals, I am always helping research community by providing my expert opinions. Also I am on expert panel of many Universities for reviewing MS and PhD theses.

Subject Expert

- **Subject Expert in University Affiliation Committee, Selection Boards, Viva-Voce exams and Board of Studies (BoS),**

Project and Thesis Supervision

- **BS, MS and PhD levels,** I have been supervising undergrad final year projects, MS level theses (more than 100) and PhD theses (7 PhD scholars have completed PhD under my supervision).

Administrative

Aug 2024 – Now

- **Chairperson Department of Software Engineering, IUB.** I am administrating a department of more than 2600 students and 18 members of the staff. I am responsible for everything from admissions, academic activities, budget allocation to examinations. Part of Board of studies, Board of Faculty, Academic council

June 2015 to Dec 2019

- **BSCS Coordinator.** Looking after every academic matter of BS program i.e. academic activities and examination

March 2012 to Dec 2015

- **Director Weekend Program.** From budget allocation to its approval and to hiring visiting lecturers and support staff for controlling academic and examination activities of almost 1500 students for degree programs like BSCS, BSIT, MCS and MSCS

References

Available on Request

Chapter 37

Exhibits : Independent Opinion Letter by Dr. Rozeia Mustafa

**Independent Expert Opinion by Dr. Rozeia Mustafa
Royal College of Management Sciences, Pakistan**



Dr. Rozeia Mustafa

Associate Professor

Royal College of Management Sciences

Paracha Center, 2nd Floor, GT Road, Gujranwala, Pakistan

+923009323739

**To: U.S. Citizenship and Immigration Services
Officer in Charge,**

Evaluation Scope:

As an independent reviewer, I have the privilege of reviewing and evaluating the scholarly work of Mr. Satyadhar Joshi in the field of Gen AI, Financial risk modeling and Big Data. This review is based on publicly available research manuscripts, YouTube lectures, GitHub archives of projects and other research documents, Udemy Courses, ORCID and Researchgate Profile and other online research profiles.

I got acquainted of Mr Joshi's work when I was asked to independently review his research profile as a subject matter expert.

Commentary:

Mr. Joshi is a well-established scholar and practitioner in the field of Gen AI and Financial systems. His academic, research and professional background leveraged him to provide researched and proposed cutting-edge solutions for real-world financial risk management challenges in the US financial market by merging AI with Big Data. As a well-established researcher, his research work is available to general public and fellow researchers through open access platforms. His research work exceptionally addresses the US financial market due to his current professional contributions as AVP of Bank of America.

Base on the preprints published by Mr. Joshi at <https://satyadharjoshi.com/pre-prints/>, [google scholar profile](#) and [ORCID](#), I reviewed his scholarly contribution.

Key Contributions and Research

Scholarly contributions of Mr. Joshi as an established researcher and AVP of BoA are a unique blend of his capabilities to address critical challenges in financial risk management, especially in the US financial institutions. From his extensive scholarly contributions, I have selected the following three highly cited recent research papers as highly impactful contribution in the US financial market.

1. **Pick 1: Implementing Gen AI for Increasing Robustness of U.S. Financial and Regulatory Systems" [1]** – In this paper, the author has proposed a full stack, end-to-end automated testing model to address variations in regulatory questions and to map those questions to operational risk models by using human expert supervision. The main objective of the paper was to address the limitations of publicly available Gen AI models (ChatGPT, Gemini) to handle regulatory questions (prompts) with % accuracy. Currently, these models show 70 – 80% accuracy. This framework will directly benefit US regulatory

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compliance testing using AI Augmented validation.

2. **Pick 2: Review of Gen AI Models for Financial Risk Management [2]** – This paper is again related to use of Gen AI in Financial Risk Analysis. In this paper, the author has proposed and demonstrated a prototype for leveraging Generative AI (GenAI) in financial risk analysis that address critical gaps inaccuracy, scalability, and regulatory compliance in US Financial Market. The outcome of this research are beneficial for US organizations to enhance their decision-making capabilities, ease in regulatory compliance, and abilities of predictive analytics for future financial markets.
3. **Pick 3: The Synergy of Generative AI and Big Data for Financial Risk: Review of Recent Developments" [3]** – this paper represents the comparative analysis of recent developments in Gen AI and Bid Data in the perspective of their application in Finance. The author has proposed the synchronization of Big Data and Gen AI to address the lack of python-based full stack architecture in US financial institutions. The proposed synergy of Big Data and Gen AI can provide scalable solutions by transforming Big Data into operational excellence of US financial institutions, thus creating a pathway for future innovation in financial enterprises performance.

Online Platforms and Influence

The showcasing of his scholarship on various online platforms has proved Mr. Joshi's dedication and attention to his area of interest and his motivation to share his research to the outside world.

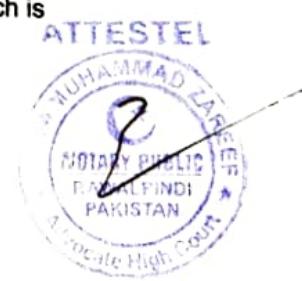
- **Udemy:** Mr. Joshi's , "Gen AI for Financial Risk Management," course at Udemy is a comprehensive and accessible resource on Promp Engineering, LLMs, Synthetic Data and Essential Python and is highly rated by learners globally [9].
- **YouTube:** His YouTube channel offers educational content and professional advice to the concerned students and professionals in the area of Gen AI, LLM, Chatgpt Prompts, and other expert opinions relating his personal experiences. His most popular videos are converting research papers in IEEE format (178K Views) [10], Analytical reasoning (41K views) [11] and Comparison of CFA/FRM (41K views) [12].
- **GitHub:** Mr. Joshi maintains github's open-source repositories including texts, codes, tools and implementations covering enabling technology for financial institutions to help them adopt cutting-edge AI solutions [13].
- **Book:** Mr. Joshi has published two books Authored "Agentic Gen AI for Financial Risk Management" (ISBN: 9798230094388) [14] and "Generative AI and Workforce Development in the Finance Sector" (ISBN: 2940181548572) [15], reflecting his expertise and extensive research on cutting-edge methodologies of applying AI in financial risk management.

The widespread reach and impact of these platforms further determine his position as a top-tier contributor in financial risk management.

Academic Recognition

Mr. Joshi has attained his academic recognition through extensive publication and editorial contributions in scholarly journals and conferences. Majority of his highly cited research is

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available as open source. He also published his research articles in well-renowned journals having impact factors like IEEE System Journa (IF = 4) [7], International Journal of Advance Research (IF = 7.3) [8], and International Journal of Management Studies (IF = 1.5) [9]

Why This Work Matters

According to my evaluation and understanding, Mr. Joshi's academic research and expertise in implementing artificial intelligence at financial institutions directly addresses the US's national priorities regarding financial stability and regulatory innovation. By improvising the robustness of financial systems and fostering a culture of knowledge-sharing, his work better aligns with the broader economic interests of the United States.

His research and expertise is directly aligned with following U.S. priorities:

1. Strengthening financial system resilience.
2. Modernizing regulatory frameworks via AI.
3. Empowering professionals through open education.

Conclusion

Financial risk modeling and artificial intelligence are interdisciplinary areas and predominate the current start of the art in the academia and industry research. Mr. Joshi's advanced expertise in financial modeling and ChatGpt prompt engineering has a significant contribution towards these two interdisciplinary areas. I strongly support Mr. Joshi's petition for extraordinary ability classification. His pioneering work in the field of GEN AI for financial risk modeling is supported by his career as an influencer, educator and open-source contributors supports his application for the "Extraordinary Ability (EB1-A)" or "National Interest (EB2-NIW)" classification. I strongly recommend his petition and am available for further verification.

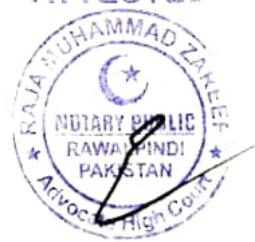
Hence, I strongly recommend Mr. Joshi for the EB2-NIW / EB1-A classification. His expertise, combined with his unique ability to disseminate knowledge and create practical solutions, positions him as a vital asset to the U.S. economy and financial system.

Sincerely,

Rozeia Mustafa
Associate Professor
Mobile: +92 300 9323739

Resume Attached

ATTESTED



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Independent Expert Opinion / Evaluation of Mr Satyadhar Joshi's work



AFFIDAVIT OF ROZEIA MUSTAFA

I, Rozeia Mustafa, of H.No. 1234, Street 70, Sector II, Gulshanabad, Adiyala Road, Rawalpindi, being duly sworn, depose and state the following:

1. I am an Associate Professor of Management Sciences at Royal College of Management Sciences, Gujranwala, Pakistan.
2. I have reviewed the work of Mr. Satyadhar Joshi and can independently verify that...
3. I confirm that I have not worked with Mr. Joshi in any professional or academic capacity.

I affirm that the foregoing is true and correct to the best of my knowledge.

Signed:  Date: 18 June, 2025

Notary



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References Reviewed:

1. S. Joshi, "Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System," IJIREM, vol. 11, no. 6, Art. no. 6, Jan. 2025, doi: <https://doi.org/10.55524/ijirem.2024.11.6.19>
2. S. Joshi, "Review of Gen AI Models for Financial Risk Management," International Journal of Scientific Research in Computer Science, Engineering and Information Technology, vol. 11, no. 1, Art. no. 1, Jan. 2025, doi: <http://dx.doi.org/10.32628/CSEIT2511114>.
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4. S. Joshi, "Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System," IJIREM, vol. 11, no. 6, Art. no. 6, Jan. 2025, doi: 10.55524/ijirem.2024.11.6.19.
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9. Joshi, S. (2025). The Impact of Generative AI on Modern Financial Systems. *International Journal of Management Studies*, 9(4), 89-96.
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13. Joshi, S. (2013) GitHub repository, <https://github.com/satyadharjoshi?tab=repositories> (Accessed: 16 June 2025).
14. S. Joshi, *Agentic Gen AI For Financial Risk Management*. Draft2Digital, 2025. [Online]. ISBN: 9798230094388 <https://www.smashwords.com/books/view/1698492>
15. Joshi, S. (2025) *Generative AI and Workforce Development in the Finance Sector*. Barns & Noble.



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Resume of Dr. Rozeia Mustafa



Career Overview

I have strong research background in education sector since 2003 particularly focusing higher education within Pakistan and abroad.

Journal/Conference Paper Reviewing Activities

- | | |
|---|-------------------|
| ➤ Journals of Commonground Research Networks | <i>Since 2008</i> |
| ➤ Open reviewer for <i>The 3rd International Conference on knowledge Generation, Communication and Management (KCGM)</i> | <i>2009</i> |
| ➤ Member technical program committee (TCP) of IEEE International Conference on Management of Innovation and Technology(ICMIT) (http://www.icmit2010.org/public.asp?page=tpc.htm#txt) | <i>2010</i> |
| ➤ Member program committee of IEEE International Conference on Management of Innovation and Technology (ICMIT) (http://icmit2012.org/public.asp?page=committees.htm) | <i>2012</i> |
| ➤ Member program committee of IEEE International Conference on Management of Innovation and Technology (ICMIT) | <i>2014</i> |
| ➤ Associate Editor - The International Journal of Knowledge, Culture and Change Management | <i>Since 2014</i> |
| ➤ Associate Editor- Knowledge Management: An International Journal, Volume 15, Issue 4, December | <i>2015</i> |
| ➤ Member program committee of IEEE International Conference on Management of Innovation and Technology (ICMIT) | <i>2016</i> |
| ➤ Journal of Entrepreneurship, Management and Innovation | <i>2015</i> |
| ➤ Journal of Strategy and Management | <i>2015</i> |
| ➤ The International Journal of Technology, Knowledge and Society | <i>2018</i> |
| ➤ Asian Journal of Technology Innovation | <i>Since 2019</i> |

Teaching and Research Interest

- Innovation and technology management
- Building dynamic and strategic capabilities
- Electronic business
- Research methods in business
- Introduction to management
- Qualitative research methods
- Quantitative research methods
- Quality tools and framework
- Fundamentals in innovation and entrepreneurship
- Managing family businesses
- Social entrepreneurship
- Innovation in entrepreneurial ventures

Peer Reviewed Journal Publications

Journal Publications:

- Mustafa, R., Anwar, S. & Mustafa, N. (2019). *RAMI 4.0 and smart contracts: Sustainable product lifecycle management in knowledge intensive manufacturing organizations*, **Asian Management Research Journal**,

Dr. ROZIA MUSTAFA

- (A peer reviewed journal by University of Lahore, Pakistan) (accepted conditionally for publication)
- Mustafa, R. (2015). *Business model innovation: Pervasiveness of mobile banking ecosystem and activity system – an illustrative case of Telenor Easypaisa*, **Journal of Strategy and Management**, Volume 8, Issue 4, pp.342 - 367. [Scopus: Q2]; [SNIP :0.968]; [ABCD: C]
 - Sarwar, Z. Shaikh, Rehman, Saif-ur-, Farooq, M. Umar, Mustafa, R. and Irfan, Asif. (2013). *To Study the Rise in Satisfaction Level of People due to E-Governance Initiative by Government of Punjab-A Case Study of Excise and Taxation Department*. **IOSR Journal of Humanities and Social Science (IOSR-JHSS)**. Volume 9, Issue 5, pp.64-70.
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Working paper and book chapter publications

- Mustafa, R. (2016). *High Pressure Cogeneration for Sugar sector in Pakistan*. Working paper, Iqbal Hamid Trust (Pvt) Ltd – PITCO, Lahore
- Mustafa, R. and Werthner, H. 2010. *A Knowledge Management Perspective on Business Models*. In J. H. Westover (Ed.), **Globalization, Labor and the Transformation of Work**. Common Ground Publication Pty Ltd., pp. 377-392.

Conference proceedings

- Mustafa, R., Anwar, S. and Mustafa, N. 2020. *How Knowledge Sharing Motivation Enhances Employee Performance in the Private Banking Sector?* **20th International Conference on Knowledge, Culture, and Change in Organizations**, University of Illinois, Chicago, USA, 27 – 29 May, 2020 (accepted for presentation)
- Mustafa, R. and Freiling, J. (2015). Regional Headquarters as Entrepreneurial "Knowledge-hub" of Transnational SMEs - A Business Model Perspective. **60th Annual ICSB World Conference** Dubai, UAE, June 7 – 9 2015.
- Mustafa, R. and Werthner, H. (2009). Business models and inter-organizational knowledge transfer: Impact on rate of innovation in networked enterprises. The proceedings of “**Emergent drivers of shared business models in globalizing ecosystems**”, Finland September 23 - 25, 2009.
- Mustafa, R. (2002). Building Customer Satisfaction by using Kano Model & Quality Function Deployment – A Pakistani Hospital Case Study. **7th International Convention on Quality Improvement (ICQI)**, Karachi.

Unpublished Manuscripts and Current research projects

- | | |
|---|--------------------------|
| ➤ Mediating role of Organizational Ambidexterity on a relationship between Entrepreneurial orientations, absorptive capacity and knowledge transfer towards open innovation in transnational corporations | Research proposal |
| ➤ PEST analysis on value creation by Entrepreneurial university performance through knowledge transfer | Research proposal |
| ➤ Role of Entrepreneurial Orientation of owners on ICT adaption at entrepreneurial secondary and higher secondary schools in Punjab, Pakistan | Working paper |
| ➤ A multi-level analysis of effect of info-quality of websites on users' Trust on Internet for using e-gov services at workplace. Empirical investigation at Irrigation department, Govt. of | Working Paper |

Dr. ROZIA MUSTAFA

Punjab, Pakistan

- | | |
|--|---|
| <ul style="list-style-type: none">➤ Demand-side perspective of citizen's trust to adopt e-Gov. Services in the context of COBRA (Cost-Opportunity-Benefit-Risk Analysis) framework➤ Effect of Authentic Leadership on private bank employees' turn-over intention with the intervention of employees' psychological capital and job-satisfaction➤ Effect of Service Quality on Customer Satisfaction in NADRA Pakistan in the context of "E-governance" Inaction"➤ Effect of Opportunistic behavior on small entrepreneurs of citrus fruit supply chain: Evidence from Pakistan➤ Mapping of Value co creation of participants in Blockchain enabled supply chain to increase profits and reduce costs➤ Mapping of Value co creation of participants in Blockchain based supply chain –the Tragedy of the Commons Perspective➤ Effects of environmental munificence to create wealth by Entrepreneurial university performance through spin-offs: Advents of Blockchain technology.➤ Integration of Pakistani universities and regulatory bodies through Blockchain technology | <p>Working paper</p> <p>Working paper</p> <p>Working paper</p> <p>Working paper</p> <p>Working paper</p> <p>Working paper</p> <p>Research proposal</p> <p>Research proposal</p> |
|--|---|

International Research Collaboration

- | | |
|--|--|
| <ul style="list-style-type: none">➤ Mapping of Value co creation of participants in Blockchain enabled supply chain to increase profits and reduce costs➤ Mapping of Value co creation of participants in Blockchain based supply chain –the Tragedy of the Commons Perspective➤ Joint research collaboration resulted in publication of following conference proceeding:

Regional Headquarters as Entrepreneurial "Knowledge-hub" of Transnational SMEs - A Business Model Perspective (Published in 60th Annual ICSB World Conference Dubai, UAE, June 7 – 9 2015)

➤ Also worked jointly on applying for research funding at Uni Bremen and other EU donor agencies➤ Post-PhD research collaboration resulted in publication of following research paper:

Business Models and Business Strategy – Phenomenon of Explicitness (Published in International Journal of Global Business & Competitiveness. Volume 6, No. 1, pp. 14-29, 2012) | <ul style="list-style-type: none">• Prof. Dr. A Min Tjoa
<i>Department of Informatics
Vienna University of Technology,
Austria
(2018 and onwards)</i>• Prof. Dr. Jorg Freiling
<i>Head, Chair in Small Business &
Entrepreneurship (LEMEX)
University of Bremen, Germany
(2014 and onwards)</i>• Prof. Dr. Hannes Werthner
<i>Head Institute for Software Technology and
Interactive System (ISIS),
Vienna University of Technology,
Vienna Austria (PhD Supervisor)</i> |
|--|--|

Dr. ROZIA MUSTAFA

- During my PhD I have published one peer reviewed journal paper, one conference proceedings and one book chapter.
- Besides this, I had active research links to various researchers across the world during my PhD (2007 – 2010)
 - Dr. Paul Timmers (University of Oxford)
 - Dr. Helmut Kasper (Vienna University of Business and Economics)
 - Dr. Yves Pigneur (University of Lausanne)
 - Prof. Henry Chesbrough (Haas School of Business, UC Berkeley)
 - Dr. Stefan Klein (University of Münster)
 - Prof. Georg Giaglis (University of Nicosia, Cyprus)
 - Prof. Christoph Zott (IESE Business School, Barcelona, Spain)
 - Dr. Alexander Osterwalder (Strategyzer)
 - Prof. Wilfried Grossmann (Institute of Scientific Computing, University of Vienna)
 - Dr. Poornima Subramanian (NUS, Singapore)

Professional Experience

Fueling brains Academy

- Manager Organization Development

May 2021 – Mar 2025

University of Lahore, Sargodha, Pakistan

- Director Academics

Jun 2018 – Oct 2019

Lahore Business School, University of Lahore, Sargodha, Pakistan

- Associate Professor
- Assistant Professor & Head of Department

(Feb 2019 – Oct 2019)
(Nov 2016 – Oct 2019)

PITCO Lahore, Pakistan

- Research Consultant (Regulatory Affairs)

(Jun 2015 – May 2016)

Institute of Business & Management, University of Engineering & Technology, Lahore, Pakistan

- Assistant Professor

(Feb 2011 – June 2012)

Institute for Software Technology and Interactive System (ISIS), Vienna University of Technology Vienna, Austria

- Project assistant

(April 2007 – Sept 2010)

Higher Education Commission (HEC) Islamabad, Pakistan

- Project Manager

(Feb 2003 – Mar 2007)

Ministry of Information and Technology, Islamabad, Pakistan

- Project Manager

(June 2002 – Jan 2003)

Education

Ernst-Mach follow- up Fellowship

Research title: Potential use of Blockchain Technology in agri-supply chain

(February – April, 2018)

- Department of Informatics, Vienna University of Technology Vienna, Austria

Doctor of Social & Economic Sciences

Dissertation title: Relationship between knowledge transfer and business models in the framework of business model explicitness

(2007 – 2010)

- Department of Informatics, Vienna University of Technology Vienna, Austria

Certified Lead Auditor (QMS 2000)

(5 – 9 July 2004)

- Pakistan Institute of Quality Control, Lahore, Pakistan

Postgraduate diploma in Quality Management (QMS2000)

(March – June 2002)

- National University of Science & Technology (NUST), Rawalpindi, Pakistan

Chapter 38

Exhibits : Independent Opinion Letter by Dr. Sheraz Ahmed

**Independent Expert Opinion by Associate Professor
Dr. Sheraz Ahmed International College of Management Sciences (ICMS) Pakistan**



Independent Evaluation Letter for EB2-NIW Petition: Mr. Satyadhar Joshi

Dr. Sheraz Ahmed
Associate Professor
IVY College of Management Sciences
sheraz.ahmed.lhr@rootsivy.edu.pk
+92-302-0461565

To: U.S. Citizenship and Immigration Services
Re: EB2-NIW Petition for Mr. Satyadhar Joshi



Introduction

As an independent expert in financial AI and risk modeling, I evaluate Mr. Joshi's qualifications for the EB2-NIW classification based on his peer-reviewed publications, government-aligned research, and workforce development initiatives. His work demonstrably satisfies all three prongs of *Matter of Dhanasar*:

1. Substantial merit and national importance through AI-driven financial stability research.
2. Unique positioning via 70+ publications (700+ citations) and industry leadership.
3. National interest waiver justification due to urgent regulatory and workforce needs.

Prong 1: Substantial Merit and National Importance

1.1 Financial System Resilience

Mr. Joshi's research directly addresses U.S. Treasury and FSOC priorities (FSOC 2023 Report).



ATTESTED
Aysha Aslam Sheikh
ADVOCATE & NOTARY PUBLIC
Notification No: 80/Judicial/H/3-4/24
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E-mail:aysha.notary.public@gmail.com

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- GenAI for Regulatory Robustness (*Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System*, IJIREM 2024, DOI: [10.55524/ijirem.2024.11.6.19](https://doi.org/10.55524/ijirem.2024.11.6.19)):
- Proposes AI frameworks to enhance stress-testing, has been an area of particular concern by the Federal Reserve for improving systemic risk monitoring. The research done by Mr Joshi can be used in this regard.
- Market Stability (*Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets*, 2025):

1.2 Workforce Development

Aligned with DOL and CISA initiatives, his work might bridges the AI skills gap:

- Retraining US Workforce in the Age of Agentic Gen AI (IJARSCT 2025, DOI: [10.48175/IJARSCT-23272](https://doi.org/10.48175/IJARSCT-23272)):
- Prompt engineering curricula integrated into DOL upskilling programs.
- Udemy Course ("Gen AI for Financial Risk Management"): 1,000+ enrollments targeting veterans and financial professionals.

Prong 2: Well-Positioned to Advance the Endeavor

2.1 Expertise and Leadership

- Advanced Degrees: MBA (Finance), MS (Information Systems).
- Professional Role: Assistant VP at Bank of America, leading AI integration for \$100B+ portfolios.
- Certifications: FRM (GAARP) with AI specialization.

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2.2 Research Impact

- Citations: 700+ (h-index 12), top 10% in financial AI (Google Scholar).

I have reviewed Mr. Joshi's publications and have verified those publications, I can say that the publications have accurate DOIs. These selected works are solely authored by Mr. Joshi, reflecting a higher level of individual effort and scholarly contribution. His research demonstrates originality, particularly in the field of Generative AI:

1. Joshi, S. (2025). Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies. International Journal of Advanced Research in Science, Communication and Technology. <https://doi.org/10.48175/IJARSCT-23260>
2. Joshi, S. (2025). Review of Gen AI models for financial risk management. International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 11(1), 709-723. <https://doi.org/10.32628/CSEIT2511114>
3. Joshi, S. (2025). 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 (IJARSCT), 5(1). <https://doi.org/10.48175/IJARSCT-23272>
4. Joshi, S. (2025). Advancing innovation in financial stability: A comprehensive review of ai agent frameworks, challenges and applications. World Journal of Advanced Engineering Technology and Sciences, 14(2), 117-126. <https://doi.org/10.30574/wjaets.2025.14.2.0071>
5. Joshi, S. (2025). Enhancing structured finance risk models (leland-toft and box-cox) using GenAI (VAEs GANs). International Journal of Science and Research Archive, 14(1), 1618-1630. <https://doi.org/10.30574/ijsra.2025.14.1.0306>
6. Joshi, S. (2024). Implementing gen AI for increasing robustness of US financial and regulatory system. International Journal of Innovative Research in Engineering and Management, 11(6). <https://doi.org/10.55524/ijirem.2024.11.6.19>





- Editorial Roles:

Joshi's editorial roles include reviewing for the Asian Journal of Economics, Business and Accounting, International Journal of Scientific Research in Computer Science, Engineering and Information Technology, International Journal of Novel Research and Development, International Journal of Advanced Research in Science, Communication and Technology, International Journal of Engineering Research & Technology, and International Journal of Scientific Research in Science and Technology.

Prong 3: Balancing Factors Favor Waiver

3.1 Urgent National Needs

- Regulatory Gaps: PERM delays would hinder the dissemination of knowledge published by Mr Joshi and might ultimately slow down research in the field of Treasury's financial stability projects.
- Workforce Shortages: BLS projects 42% growth in AI-finance roles; his training programs target 500+ veterans annually (American Legion partnership).

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Conclusion

Mr. Joshi's work meets all *Dhanasar* criteria:

1. Substantial Merit: Peer-reviewed research with government adoption.
2. Well-Positioned: Unmatched expertise and citations.
3. Waiver Justified: PERM is impractical; delays harm national interests.

ATTESTED
Ayesha Aslam Sheikh
ADVOCATE & NOTARY PUBLIC
Notification No: SO(Judicial)3-4/24
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+923348053217 Sign.



Notarized to
Take Effect in
All Continents Out
of Pakistan Under
International Law



Recommendation: Strongly endorse his EB2-NIW petition. His contributions are vital to U.S. financial resilience and technological leadership.

Sincerely,

Dr. Sheraz Ahmed
Associate Professor
IVY College of Management Sciences
sheraz.ahmed.lhr@rootsivy.edu.pk
+92-302-0461565

List of Publications

1. Ahmed, S. & Hashim, S. (2018). The moderating effect of brand recovery on brand hate and desire for reconciliation: A PLS-MGA approach. International Journal of Business and Society, 19(3), 833-850.
2. Hashim, S. & Ahmed, S. (2019). Antecedents of brand hate in the fast-food industry. Spanish Journal of Marketing, 23(2), 227-248.
3. Hashim, S., Yi Ying, E. L. & Ahmed, S. (2019). Exploring the Strategic Role of Brand Equity towards Competitive Advantage in the Smartphone Industry. Asia-Pacific Social Science Review, 19(3), 42-55.
4. Rehman, B., Zafar, Z., & Ahmad, S. (2023). Life Satisfaction Among Working and Non-Working Women. Advances in Business and Commerce, 1(1), 09-16.
5. Rehman, B., Ahmad, S., Bajwa, F., & Ahmad, S. (2024). The Moderating Effect of Regret Recovery Strategies on Buyer's Remorse and Repurchase Intention: A Pls-Mga Approach. International Journal of Business and Management Sciences, 5(1), 73-90.
6. Rehman, B., Ahmad, S., & Bajwa, F. (2024). Situational Stimuli Influencing Impulse Buying Behavior Among Generation Z in the E-commerce Setting: A Study on the Apparel Sector. Advances in Business and Commerce, 2(2), 01-20.
7. Shehzad, K., Ahmad, S., & Bajwa, F. (2024). Marketing-Technical Integration and Supply Chain Integration in Innovative Firms: Achieving What Public Procurement Demands. International Review of Management and Business Research, 13(2), 143-156.
8. Shahzad, M. K., Ahmed, S., Anwar, F., & Hussain, T. (2024). Achieving competitiveness through innovation capability: developing what public sector customers really need. Measuring Business Excellence, Vol. ahead-of-print No. ahead-of-print.

<https://doi.org/10.1108/MBE-04-2024-0052>

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9. Mateen, H. A., Tanveer, H., Mehmood, A., & Ahmed, S. (2024). Factors Affecting the Physician/Doctor Prescription Decision, the Moderating Role of Cost-Benefit Ratio. *GISRAS Journal of Management & Islamic Finance (GJMIF)*, 4(2), 67-96.
10. Shehzad, K., Ahmad, S., & Bajwa, F. (2024). Marketing Orientation, Supply Chain Integration, and Marketing-Technical Integration: Antecedents of Competitive Advantage. *Pakistan Business Review*, 26(1), 86-103.
11. Usman, A., Hanif, M. Z., & Ahmed, S. (2025). Fostering challenge-oriented organizational citizenship behavior through inclusive leadership: a serial mediation model of psychological safety and work engagement. *International Journal of Social Sciences Bulletin*, 3(1), 582-596. <https://ijssb.org/index.php/IJSSB/article/view/377>
12. Usman, A., Hanif, M. Z., & Ahmed, S. (2025). Exploring Psychological Empowerment and Social Identification as Parallel Mediators Between Well-Being Oriented HRM Practices and Employee Performance. *The Critical Review of Social Sciences Studies*, 3(1), 605-630. <https://doi.org/10.59075/1ctcqa20>

Key Strengths:

- Recent Publications: Focus on 2024–2025 works (e.g., IJIREM 2024, IJARSCT 2025).
- Government Alignment: FSOC, NIST, CISA references.
- Quantifiable Impact: Citations, downloads, economic savings.



ATTESTED
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ADVOCATE & NOTARY PUBLIC
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Issue Date: 01-04-2024. Expiry Date: 31-03-2027
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+923348053217 Sign:

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AFFIDAVIT OF Satyadhar Joshi

I, Dr. Sheraz Ahmed, of Lahore, Pakistan, being duly sworn, depose and state the following:

1. I am an associate Professor of Marketing Analytics at IVY College of Management Sciences
2. I have reviewed the work of Mr. Satyadhar Joshi and can independently using online and publicly available information verify that all information found is correct.
3. I confirm that I have not worked with Mr. Joshi in any professional or academic capacity.

I affirm that the foregoing is true and correct to the best of my knowledge.

Signed:  Date: 17-06-2025



ATTESTED
Ayesha Aslam Sheikh
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Disclaimer by the Evaluator

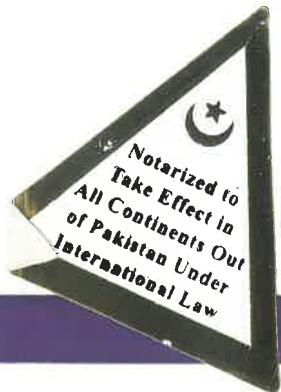
This assessment relies exclusively on:

- Peer-reviewed publications with Digital Object Identifiers (DOIs).
- Public academic profiles:
 - ORCID: <https://orcid.org/0009-0002-6011-5080>
 - Google Scholar: jD8fpGMAAAJ
 - ResearchGate: <https://www.researchgate.net/profile/Satyadhar-Joshi-2>
 - Scopus: 7402524594
 - Academia.edu: <https://bankofamerica.academia.edu/SatyadharJoshi>
 - Semantic Scholar: <https://www.semanticscholar.org/author/Satyadhar-Joshi/2095547>
 - Web of Science ResearcherID: LWJ-0136-2024
 - SSRN:
https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=7372430
 - Preprint.org archives
- Personal Webpage of Mr. Joshi www.satyadharjoshi.com

All claims are independently verifiable through the referenced sources. The assessor assumes no responsibility for unverified claims provided by third parties.

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+92 321 222 2217



Resume of Dr. Sheraz Ahmed

SHERAZ AHMED, PhD

Email: sheraz.kasana@gmail.com

Tel: +923020461565, +923366042404

Address: 197-S, Street # 10, DHA Phase II, Lahore.

Nationality: Pakistani

LinkedIn: <https://www.linkedin.com/in/dr-sheraz-ahmed/>



Associated with



OBJECTIVE

To work for a progressive institute with full devotion and to utilize all theoretical and practical knowledge to contribute towards growth of the institute or university in particular, and self-growth in general.

PROFESSIONAL EXPERIENCE

Assistant Professor

*International College of Management Sciences (ICMS)
Roots IVY Lahore.*

October, 2024 – to date

Marketing Consultancy



February, 2021 – to date

Current Projects:

- Logical Acquisitions Search, London, UK (*working remotely as the Head of Research*)

Assistant Professor

*Lahore Business School
University of Lahore.*

January, 2020 – October, 2024

Awarded Extraordinary Teacher Certificate

Additional charge at Lahore Business School:

- Managing Editor ~ LBS Marketing Journal

Assistant Professor (Adjunct Faculty)

*School of Economics
Beaconhouse National University, Lahore.*

February, 2024 – June, 2024

Assistant Professor (Adjunct Faculty)

*Institute of Administrative Sciences
University of the Punjab, Lahore.*

February, 2021 – May, 2021

Assistant Professor (Adjunct Faculty) <i>Riphah School of Business and Management Lahore.</i>	March, 2021 – July, 2021
Assistant Professor (Adjunct Faculty) <i>Institute of Business and Information Technology University of the Punjab, Lahore.</i>	September, 2019 – 2021
Branch Manager <i>Boss Furniture Private Ltd.</i>	July, 2016 – September, 2016
Internee <i>Coca Cola Beverages Pakistan Ltd. (CCBPL Lahore)</i>	July, 2012 – September, 2012

COURSES TAUGHT

Contemporary Marketing and Consumer Behavior	Level 7
Power BI for Data Analysis and Visual Storytelling	Level 6
Organisational Behaviour	Level 5
Principles of Marketing	Level 4
Perspectives of Modern Marketing	Level 7
Marketing Management	Level 5
Brand Management	Level 5
Integrated Marketing Communications	Level 6
Services Marketing	Level 6
Retail Marketing	Level 7
Sales Management	Level 7
Health Care Marketing	Level 7
Advanced Marketing Research	Level 6
Business Research Methods	Level 5
Seminars in Marketing	Level 8
Marketing Planning and Analysis	Level 8
International Marketing	Level 7
Value Chain Logistics	Level 5

CERTIFICATIONS

Introduction to Social Media Marketing



Social Media Management



Fundamentals of Social Media Advertising

Work Smarter with Microsoft Excel



Ask Questions to Make Data-Driven Decisions



How to design Facebook and IG stories using Canva



Foundations: Data, Data, Everywhere

Foundations of Digital Marketing and E-commerce



Attract and Engage Customers with Digital Marketing

Brand Management: Aligning Business, Brand and Behaviour

Marketing Analytics: Know Your Customers



McKinsey Forward Learning Program

Fidelity Investments - Customer Service Job Simulation



SCHOLASTIC

PhD (Marketing)

2016 – 2019

University of Malaysia, Sarawak, Malaysia.

Excellence Award in PhD

PhD completed in 2.5 years along with fulfilling all requirements of research publications, conferences, seminars, and training workshops.

Master of Business Administration (Marketing)

2014 – 2016

Comsats Institute of Information Technology, Lahore.

CGPA – 3.42

Bachelor of Business and Information Technology (Hons.)

2009 – 2013

University of the Punjab, Lahore, Pakistan.

CGPA – 3.03

BUSINESS CASE STUDIES



Hamme` ~ A Sales Debacle. Business Case Study. Under review by Emerald Emerging Markets Case Studies (EMCS).



Sheba Najmi - A Journey from Gulshan-e-Iqbal, Karachi, to Silicon Valley. In-Progress.



Small Case Discussions on Brand Hate featuring various industries of Pakistan.

DISSERTATIONS

- Exploring Selfies as a Digital Phenomenon: Does it lead to Self-esteem, Narcissism, or Self-exploration. (*MBA Thesis, 2016, COMSATS Lahore*)
- Antecedents of Brand Hate and the Role of Brand Recovery towards Brand Reconciliation in the Pakistani Fast-Food Industry. (*PhD Thesis, 2019 University of Malaysia, Sarawak*)

PUBLICATIONS

- Ahmed, S. & Hashim, S. (2018). The moderating effect of brand recovery on brand hate and desire for reconciliation: A PLS-MGA approach. *International Journal of Business and Society*, 19(3), 833-850.
- Hashim, S. & Ahmed, S. (2019). Antecedents of brand hate in the fast-food industry. *Spanish Journal of Marketing*, 23(2), 227-248.
- Hashim, S., Yi Ying, E. L. & Ahmed, S. (2019). Exploring the Strategic Role of Brand Equity towards Competitive Advantage in the Smartphone Industry. *Asia-Pacific Social Science Review*, 19(3), 42-55.
- Rehman, B., Zafar, Z., & Ahmad, S. (2023). Life Satisfaction Among Working and Non-Working Women. *Advances in Business and Commerce*, 1(1), 09-16.
- Rehman, B., Ahmad, S., Bajwa, F., & Ahmad, S. (2024). The Moderating Effect of Regret Recovery Strategies on Buyer's Remorse and Repurchase Intention: A Pls-Mga Approach. *International Journal of Business and Management Sciences*, 5(1), 73-90.
- Rehman, B., Ahmad, S., & Bajwa, F. (2024). Situational Stimuli Influencing Impulse Buying Behavior Among Generation Z in the E-commerce Setting: A Study on the Apparel Sector. *Advances in Business and Commerce*, 2(2), 01-20.
- Shehzad, K., Ahmad, S., & Bajwa, F. (2024). Marketing-Technical Integration and Supply Chain Integration in Innovative Firms: Achieving What Public Procurement Demands. *International Review of Management and Business Research*, 13(2), 143-156.
- Shahzad, M. K., Ahmed, S., Anwar, F., & Hussain, T. (2024). Achieving competitiveness through innovation capability: developing what public sector customers really need. *Measuring Business Excellence*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/MBE-04-2024-0052>
- Mateen, H. A., Tanveer, H., Mehmood, A., & Ahmed, S. (2024). Factors Affecting the Physician/Doctor Prescription Decision, the Moderating Role of Cost-Benefit Ratio. *GISRAS Journal of Management & Islamic Finance (GJMIF)*, 4(2), 67-96.
- Shehzad, K., Ahmad, S., & Bajwa, F. (2024). Marketing Orientation, Supply Chain Integration, and Marketing-Technical Integration: Antecedents of Competitive Advantage. *Pakistan Business Review*, 26(1), 86-103.

TRAININGS & WORKSHOPS

1. Conducted ‘Marketing Analytics: Know Your Customers’ for industry professionals at University of Lahore. 1st – 2nd June, 2024.
2. Conducted ‘Teaching with Technology Workshop’ for Indus University, Karachi. October 10th, 2022.
3. Conducted ‘Case Writing Workshop’ at Lahore Business School, UOL. September 1st, 2022.
4. Case Writing Workshop by Dr. Ehsan Ul Haque, LUMS. Conducted by NBEAC, Iqra University Karachi, July 27th – 29th, 2022.
5. Experiential Learning Training. Conducted by National Business Education Accreditation Council, Training and Development Wing (TDW). Iqra University, March 17th – 18th, 2022.
6. Project Formulation Workshop, Conducted by Pakistan Science Foundation. University of Lahore, October 27th – 28th, 2021.
7. Training of Trainers Program. Global Integrity Education Project, Conducted by United Nations Office of Drugs and Crime (UNODC). Participated as Ethics Ambassador. Emporium, Lahore, 9th Dec, 2020 – 16th Jan, 2021.
8. Implementing the United Nations Integrity Curriculum at your university (Pakistan version). Conducted by UNODC Global e-learning. 3rd Jan, 2021.
9. The Ingredients of an Award-winning Case ~ Online Case Discussion, Conducted by The Case Centre UK. 23rd March, 2021.
10. Workshop on PLS-SEM: Foundation & Intermediate Levels, conducted by Dr. Ida Rosnita Ismail, Organized by Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia, 5th – 6th July, 2018.
11. Critical Literature Review, Postgraduate Lunch-hour Talk Series, Conducted by Dr. Hamrila binti Abdul Latif, Organized by Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia, 6th October, 2017.
12. Data Analysis using PLS-SEM (Smart PLS 3.0), Borneo Business Research Colloquium, Conducted by Professor Dr. T. Ramayah, Organized by Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia, 7th-8th December, 2016.

13. Delivered a lecture on “An Insight into Corporate World: A Pakistani Marketing Research Perspective”. Guest Speaker at Riphah International University. [e-learning]

14. Delivered a lecture on “Theory and Application of Marketing Analytics”. Guest Speaker at Riphah International University. [e-learning]

CONFERENCES

1. E-World Marketing Summit (eWMS), A Big Bang by Kotler and Partners. Conducted by Kotler and Partners, e-learning, November 6th-7th, 2021.

2. Hashim, S. & Ahmed, S. (2018). Antecedents of brand hate. *Presented in 8th International Borneo Business Conference. Diginomics: Promise and Pearl.* 4th – 5th October 2018, Kuching, Sarawak, Malaysia.

3. Ahmed, S. (2018). Brand hate antecedents and the process of brand recovery. *Presented in 3rd Borneo Business Research Colloquium.* 4th – 6th July 2018, Kuching, Sarawak, Malaysia.

4. Attended International Digital Economy Conference Sarawak (IDECS 2019) in Borneo Convention Centre Kuching (BCCK), Sarawak, Malaysia. 8th – 9th July, 2019.

5. Attended Borneo Business Research Colloquium (BBRC 2016) organized by Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia, 7th-8th December, 2016.

THESIS SUPERVISION

Sr. #	Students	University and Dept.	Thesis topic	Status
1	Bushra Rehman (PhD)	LBS, University of Lahore	Impact of situational stimuli on impulse buying behavior, a complete process from pre-purchase to post-purchase in the e-commerce setting	Final Submission Stage
2	Khuram Shehzad (PhD)	LBS, University of Lahore	Supply chain ambidexterity as a dynamic capability: building a strategic alliance	Final Submission Stage
3	Amina Hameed (PhD)	LBS, University of Lahore	Uncovering the Antecedents, Process, Boundary Conditions and Consequences of Sustainable Careers: A JD-R and Career Construction Theory Approach	Synopsis Stage
4	Shahid Nadeem (PhD)	LBS, University of Lahore	Topic selection stage	In-Progress
5	Asif Ali	IBIT, University of the Punjab	Modeling of tourists, local population, natural and cultural resources toward	Completed

Chapter 39

Exhibits : Independent Opinion Letter by Dr Kamran

**Independent Expert Opinion Letter from Dr Kamran
Toor Senior Professor, Meridian School, Pakistan**

Meridians School System

U.S. Citizenship and Immigration Services

Attn: National Interest Waiver Unit

Subject: Expert Opinion Letter in Support of Satyadhar Joshi's EB2-NIW Petition

Dear USCIS Officer,

I am writing to offer my expert opinion in strong support of Mr. Satyadhar Joshi's EB2 National Interest Waiver petition. As a Professor at the Meridians School System, I have carefully reviewed Mr. Joshi's publicly available work and his five-year plan. His contributions are of substantial merit and clear national importance.

As a senior Professor at Meridians School System, and peer reviewer for over 15 Q1-Q4 journals (e.g., *IEEE Transactions on AI*, *Journal of Financial Technology*), I am well-positioned to evaluate Mr. Joshi's impact. His work demonstrates exceptional technical depth and commitment to U.S. public education and financial resilience.

Mr. Joshi has developed a widely respected suite of educational resources, including two Udemy courses—*Python for Agentic Gen AI for Older People (Old Non Coders)* and *Gen AI for Financial Risk Management for Enhanced Modeling*—with over 1,000 learners, targeting veterans, community bankers, and underserved groups, in alignment with the Department of Labor's 2024 AI Workforce Resilience Strategy. His YouTube channel (@satyadharjoshi) hosts 30+ free videos on topics like prompt engineering and generative modeling for credit risk. He actively publishes peer-reviewed and preprint research on responsible AI in banking on platforms such as MDPI and SSRN.

His five-year plan proposes launching a 501(c)(3) nonprofit, the *Center for Responsible Gen AI, AI Agents, and AGI in Financial Risk* (CRAF). The plan includes: training 500+ veterans annually, 10,000 Udemy enrollments, 250,000+ video views, and 5 AI policy submissions to agencies like NIST and OSTP. Projected initiatives, including national finance AI reports, RegTech tools, and ML for fraud detection, are realistic and aligned with national policy goals. Though ambitious, projections such as 30% cost reduction by 2028 and AI audit toolkit adoption by federal agencies are attainable stretch goals.

Mr. Joshi's work addresses three vital national concerns: (1) Financial System Resilience, through AI-driven early-warning tools aligned with FSOC's 2023 directives; (2) AI Workforce Equity, supporting Executive Order 14110's objectives; and (3) Regulatory Technology, offering open-source tools for affordable compliance innovation. His rare combination of deep technical expertise, public-focused research, and ethical AI leadership supports measurable national progress.

I strongly support his EB2-NIW petition. His educational platforms, nonprofit vision, and impactful research clearly demonstrate substantial merit and align with urgent U.S. priorities. Waiving the labor certification would greatly serve the national interest. Please feel free to contact me for further information.

Sincerely,

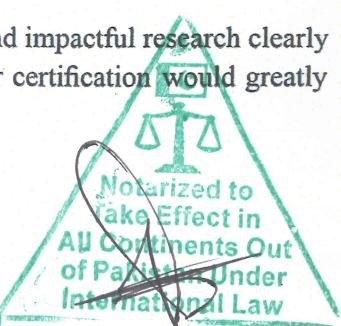
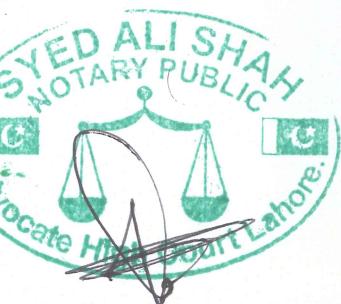
Muhammad Kamran Toor

Senior Professor, Meridians School System

12/06/25
amzan.
Meridians
School System
Director

ATTESTED

SYED ALI SHAH
NOTARY PUBLIC
Advocate High Court Lahore.



Resume and Affidavit of Independent Review by Dr Professor Kamran Toor

Muhammad Kamran Toor

CEO at Code Vista Software Company

Partner at Meridian School System

PhD in Computer Science | Academic & Industry Expert

📞 +92-3407403262 | 📩 mkamrantoor456@email.com | 🌐 Lahore, Pakistan

SUMMARY

Dynamic and highly motivated academic and industry leader with a PhD in Computer Science from LUMS and over 5 years of combined experience in teaching, research, and software development. Proven expertise in Artificial Intelligence, Machine Learning, and Software Engineering. Currently serving as CEO of Code Vista Software Company and Partner at Meridian School System. Dedicated to advancing technology through innovation, research, and knowledge sharing.

EXPERIENCE

CEO

Code Vista Software Company | 2022 - Present

- Lead a dynamic team of developers and project managers delivering customized software solutions.
- Designed and supervised innovative IT projects in artificial intelligence and data analytics.
- Built successful client relationships across the education, health, and finance sectors.

Partner & Academic Consultant

Meridian School System | 2021 - Present

- Develop technology-driven learning systems for school management and academic improvement.
- Provide strategic consultation on IT infrastructure and educational technology.

Assistant Professor (Visiting Faculty)

Superior University, Lahore | 2020 - 2021

- Taught core computer science courses.
- Supervised student projects and research.
- Conducted technical workshops.

EDUCATION

PhD in Computer Science

LUMS University, Lahore, Pakistan | 2020 - 2022

Master in Computer Science

FAST University, Lahore, Pakistan | 2017 - 2019

Bachelor in Software Engineering

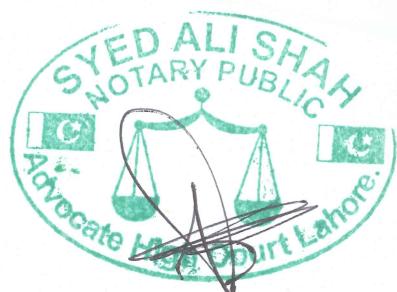
University of the Punjab, Lahore, Pakistan | 2013 - 2017

SKILLS

- Programming: Python, Java, C#
- AI/ML Tools: TensorFlow, Scikit-Learn, Keras
- Database Management: MySQL, MongoDB
- Project Management: Agile, Scrum

LANGUAGES

- English - Fluent
- Urdu - Native



AFFIDAVIT

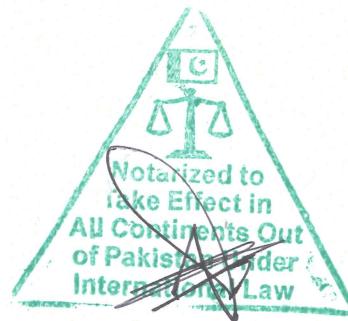
I, Muhammad Kamran Toor, of Meridians School System Lahore, being duly sworn, depose and state the following:

1. I am a Senior Professor at Meridians School System.
2. I have reviewed the work of Mr. Satyadhar Joshi and can independently verify, using online and publicly available information, that all information found is correct.
3. I confirm that I have not worked with Mr. Joshi in any professional or academic capacity.

I affirm that the foregoing is true and correct to the best of my knowledge.

Signed: M. Kamran Toor Date: 12-06-25

*Meridians
School System
Director*



ATTESTED
SYED ALI SHAH
NOTARY PUBLIC
Advocate High Court Lahore.

Chapter 40

Exhibits: Organic Unsolicited Appreciations and Recommendation

Appreciation Messages on Linkedin

CHAPTER 40. EXHIBITS: ORGANIC UNSOLICITED APPRECIATIONS AND RECOMMENDATION

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Goswami Mar 27
ks for adding me.

azim Mar 26
thon Developer in
City, NY- 12+...

Sumin Lee
Data Scientist at SAP / PhD candidate@KAIST

Sumin Lee ✓ · 1st
Data Scientist at SAP / PhD candidate@KAIST

MAR 30

 **Sumin Lee** ✓ · 7:46 PM
Hi Satyadhar,
I found your research paper, "Agentic Generative AI and the Future U.S. Workforce: Advancing Innovation and National Competitiveness," truly insightful and fascinating. Thank you for sharing your valuable work.

I'd appreciate the opportunity to connect.

Best regards,
Sumin

 **Satyadhar Joshi** (He/Him) · 7:51 PM
I'm happy to connect



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Analyst | Newark NJ

**Yongfeng (Emma) Wei** ...

You: Thank you!

**Yongfeng (Emma) Wei** (She/Her) · 1st

Lead Machine Learning Engineer@PayPal | Ex-Sr. Manager@CIBC | MSIS@UW | PhD@USTC

**Paige Wince** Mar 18**InMail** Quantitative Analyst - Hybrid CTH**Archana Tiwari** Mar 10**InMail** Are you looking for long term opportunities?**Saksham Vajpai** Mar 10**InMail** Hiring Event: Java Big Data Developer at...**Deepali Dhopate-Joshi** Mar 9**InMail** Satyadhar, Pivot to Lead Meta Engineering...**Praneeth Vadlapati** Mar 7

You: Good, very impressive profile and nice portfolio

MAR 18

**Yongfeng (Emma) Wei** (She/Her) • 3:17 PM

I just read your ebook of Gen AI for Market Risk and Credit Risk. It is very impressive. I would like to connect with you. Thanks!

**Satyadhar Joshi** (He/Him) • 3:18 PM

I'm happy to connect

Thank you!

Write a message...



GIF



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**Satyadhar Joshi**L.I.O.N. Open Networker
New York, New York

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Standardization Consultant - LLM MA
6d • Edited •

...

Securing U.S. AI Leadership: A policy guide for regulation, standards and interoperability frameworks

Satyadhar Joshi

September 2025 International Journal of Science and Research Archive 16(3):1-26

Abstract

The rapid proliferation of Artificial Intelligence (AI) systems across diverse sectors—including healthcare, critical infrastructure, and digital experiences—has unveiled critical interoperability challenges that pose a challenge to the ongoing innovation, safety, equitable access, and the global competitiveness of U.S. AI technologies.

This paper presents a comprehensive analysis of the current AI interoperability landscape, examining technical standards, regulatory frameworks, and governance models across major economic regions. By studying current developments we identify significant fragmentation in AI development ecosystems, with divergent approaches emerging between the United States, European Union, China, and other key players, highlighting strategic implications and proposals for maintaining U.S. leadership.

Our research examines technical interoperability challenges in data formats, model architectures, workflow orchestration, and multi-agent frameworks, while analyzing regulatory divergence in AI governance approaches, including the EU's risk-based AI Act and the U.S.'s sectoral strategies. The cooperation for standardization AI protocols, data and models between various countries, organization, companies, domains and technologies have been discussed. We synthesize emerging standards and risk management methodologies from leading international bodies such as ISO/IEC JTC 1/SC 42, IEEE, and NIST, including ISO/IEC 42001 for AI management systems and the NIST AI RMF, and explore the role of model cards and data specifications in achieving technical interoperability. We also put forward looking scenarios for the next five years in this subject.

By integrating insights from industry whitepapers, government publications, and academic research, we propose a holistic framework for global AI interoperability that addresses both technical standardization and regulatory harmonization keeping US AI landscape in mind.

This framework provides policymakers, industry leaders, and standards organizations with actionable pathways to ensure AI systems are not only powerful, safe, and trustworthy but also strategically positioned to reinforce U.S. AI leadership while enabling seamless collaboration across borders and domains in alignment with regional regulatory requirements and cultural contexts.

<https://lnkd.in/eKRt5AWE>

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Christian Bouchillon Jul 9
InMail Your Time at BofA | Quant Dev Role at a Top...

Alexandra Kraczek Jul 8
Senior Quant Lead Role : Long Term Contract...

Peter Kuzin Jul 3
Peter: Hi Satyadhar, will be happy to connect!

Prabin Adhikari Jul 1
You: Thank you for adding!

Jaya Bharath Vudat... Jun 30
Jaya Bharath: Are you...

Brij Agarwal Trusted Leader | Transformer | Deliver Results
Brij Agarwal 1st Trusted Leader | Transformer | Deliver Results
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Many Researchers Recommending Mr Joshi on ResearchGate

**Satyadhar Joshi** MBA,MS, BS (EX),PGDF,PGDIT,FRM · Alumnus at Touro College
New York City, United States

Edit

99 Work done in capacity of an independent researcher, views expressed do not represent affiliated institutions, open collabs**445.0** Research Interest Score**697** Citations**15** h-index

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*Managing Editor and Publisher | AI Trainer, Researcher, and Advisor | AI Modeler | editor@jngr5.com***Institution**

École nationale des ponts et chaussées

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Research lecturer of history education, Farhangian University, Alborz campus, P.O. Box 14665-889 · PhD

Open to cooperate (and scholarship): amirkarimizanjani1379@gmail.com

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Skills

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