

## ADVANCED DATA SCIENCE LAB

- **Name of Principal Investigator/ Group Leader:** Dr. Manish Kumar Pandey

- **Research Theme:**

- State Bank of India sponsors this Lab for Solving Challenges in Responsible Banking, Risk Governance through Data Driven Approach.



- **Broad Area of Research and Scope:**

1. **Responsible Banking**

- a. Environmental, Social, and Governance (ESG) aspects Forecasting
- b. Empowering Service, Transparency, Ethics, Politeness & Sustainability (STEPS).

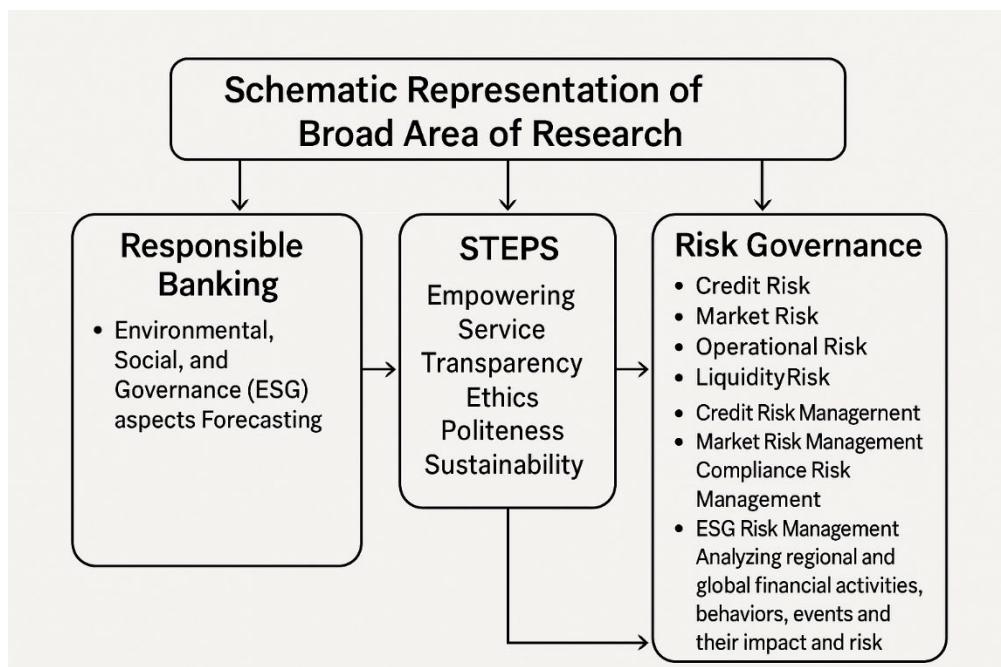
2. **Risk Governance**

- a. Credit Risk, Market Risk, Operational Risk and Liquidity Risk
- b. Credit Risk Management, Market Risk Management, Compliance Risk

3. **Management & ESG Risk Management**

- a. Analyzing regional and global financial activities, behaviors, events and their impact and risk

### Schematic Representation of Broad Area of Research:



### Total Number of Publications by the group:

### Top 5 Article with impact factor:

1. Kumar Pandey M\*, Karthikeyan S. Enhancing financial services sustainability through improved predictive and preventive analytic techniques on defaults made by customers using an optimally balanced dataset. In: 2nd Annual QEDS Conference; 2025 Feb 13–15; Accepted at AACM-2025.
2. Mahto B, Kumar Pandey M\*. Vision Transformer-driven brain tumor identification with local interpretable model explanations. In: International Conference on Communication and Smart Device (ICCoSD 2025); 2025 Jul 25–27; Accepted.

## Research Projects:

Title	Role (PI/ Co-PI)	Funding Agency	Amount (in Lacs)	Duration
Development of Machine Learning Tool for Reducing Exposure to ESG (Environmental, Social, and Governance) Risks	PI	Asha & Sajjan Agarwal Foundation	INR 17,91,000.00	July 2025 to June 2027

## Industry/Academia Collaborations:

### No. of Active International Collaborations (in terms of Research, Publication etc.):

- NASA Jet Propulsion Laboratory
- Umeå University, Umeå, Sweden
- Systems Engineering and Automatic Control, University of the Basque Country
- Higher School of Saharan Agriculture Adrar (Algeria)
- USTHB (Algeria) & Aber. Univ. (UK)
- Aarhus University; Department of Geography, Harokopio University, Athens, Greece
- Informatics Centre, School of Science and Technologies, University of Camerino, 62032 Camerino, Italy
- Clinical Research Centre, School of Medicinal and Health Products Science, University of Camerino, Camerino, Italy
- KTH Engineering Mechanics, Stockholm (Sweden); Louisiana State University
- International Rice Research Institute, India

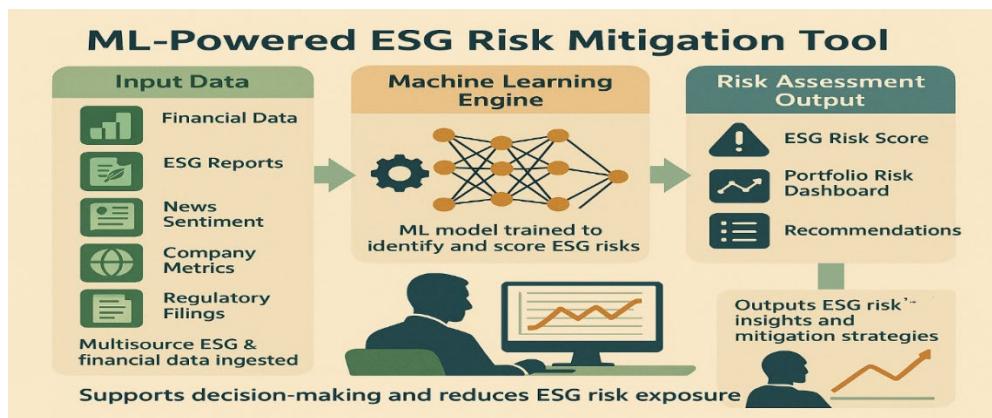
### No. of National Level Collaborations (in terms of Research, Publication etc.):

- Defense Terrain Research Laboratory (DTRL) DRDO
- IESD BHU
- Delhi University
- University of Allahabad
- National Institute of Advanced Studies, Bangalore
- Indian Institute of Science, Bangalore
- IARI, New Delhi
- Space Applications Centre, ISRO Ahmedabad
- CSRE-IIT,
- SNU New Delhi
- Rani Laxmi Bai Agricultural University, Jhansi

### No. of Industrial Collaboration (Research Publication/Consultancy etc.)

- Adrosonic IT Consultancy Pvt Ltd., State Bank of India, Fractal Analytics, TCS and Adani Group

## Project:



**Group Members:**

