Curriculum Vitae of Dr. Himadri Bhattacharyya Chakrabarty

1. Name: **Dr. Himadri Bhattacharyya Chakrabarty**

2. Designation: **Principal, Bangabasi College**, Calcutta University.

3. Address of Working Place: Bangabasi College, 19, Rajkumar Chakraborty Sarani,
                Kolkata – 700009, West Bengal, India

3. Address of Residence : 53A, Dr. S.C. Banerjee Road, Beliaghata Main Road, Rashdip
              Apartment, Flat-202, Kolkata- 700010, West Bengal, INDIA.

4. E-mail: hima.c@rediffmail.com ; himi0201@gmail.com ;

5. Education:

Sl. No.	Name of Examinations	Board/ University	Marks obtained	Remarks
1.	B.Sc. (Honours)	Calcutta University	61%	1st class
2.	M.Sc.	-DO-	68.25%	1st class
3.	M.Tech.	-DO-	74.25%	**1st class, Rank: 1st**
4.	Ph.D. (Tech.) (Radiophysics & Electronics)	-DO-		**Ph.D. work done in Calcutta University in collaboration with Machine Intelligence Unit, Indian Statistical Institute, Kolkata**

6. Post-Doctoral work:

(i) Visiting Fellowship: 2012 ; Visiting Fellow in University of Washington, Seattle, Washington, USA.

(ii) Visiting Fellowship: 2013 ; Post-Doctoral work done as a Visiting Fellow in Institute of Radiophysics and Electronics, Calcutta University under UGC-XIIth Plan Visiting Fellow Scheme.

(iii) Visiting Professor, 2014 ; in Institute of Radiophysics and Electronics, Calcutta University, India, under UGC-XIIth Visiting Professor Plan.

(iv) Post Doctoral Fellowship: 2016 ; Post-doctoral work done as a Post Doctoral Fellow in Machine Intelligence Unit, Indian Statistical Institute, Kolkata from January, 2016 to 2018.

(v) Research Guide: Supervising two Ph.D. students in Institute of Radiophysics and Electronics. Registered in 2018 and 2021 in Calcutta University.
Supervising one student in Atmospheric Science. Registered in 2022 in Calcutta University.
Supervision as a Research Guide is continuing.

7. Job Experience:

Sl.No.	Post held	Employer	Depts./Subjects	Years of service	Remarks
1.	**Principal**	**Bangabasi College Calcutta University**		12th March, 2021 to till date	Continued
2.	**Principal**	**Jibantala Rokeya Mahavidyalaya, Calcutta University**		Joined on 05th Oct., 2018 & released on 11th Mar, 2021	2 yrs. & 5 months
3.	Associate Professor, Head & PG Co-ordinator	Surendranath College, Kolkata, Calcutta University.	Dept. of Computer Sc.	1994 to 04th October, 2018	24 yrs.
4.	Guest teacher	Institute of Radiophysics & Electronics, Calcutta University	Post B.Sc. B.Tech. (Information Technology)	2005 to 2017	12 yrs. teaching in PG level
5.	Guest teacher	Center for Atmospheric Sc., Calcutta University.	M.Sc. (Atmospheric Sc.)	2008-2010, 2012- 2021	11 yrs. teaching in PG level
6.	Guest teacher	Dept. of Electronic Sc., Vidyasagar University	M.Sc. (Electronic Sc.)	2004-2005	1 yr. teaching

8. Research Projects completed:

♦ **"Some Studies on Neural Network models for data analysis in Meteorology", (1999-2001)**
  Funded by: University Grants Commission (UGC) of India
♦ **"Role of Computer Science in monitoring Atmospheric systems", (2005-2007),**
  Funded by: University Grants Commission (UGC), India.
♦ **Fellowship Scheme under University Grants Commission (UGC) in 2007-2010**

9. Honors and awards:

- **Post Doctoral Fellow (January, 2016- 2018)** at Machine Intelligence Unit, **Indian Statistical Institute, Kolkata. It was Honorary service.**

- **Visiting Fellow in 2012 in University of Washington, Seattle, USA.**

- **Selected as an Invited Speaker (presented paper and also delivered invited talk) in World Climate Conference (WCC-3) conducted by World Meteorological Organization (WMO) in Geneva, Switzerland in 2009, funded by United Nations Organization (UNO).**

- **Obtained Ist class and Ranked 1st in M.Tech. in Calcutta University**

- **National Scholarship Award (1979) sponsored by West Bengal Government**.

- **Ranked 34th** in Madhyamik Examination within West Bengal. Selected as **National Scholar.**

- **Reviewer of International Journals of the Publications of Elsevier, Atmosphera, and Common Ground Publishers.**

10. Professional Service :

- **Founded** the Discipline **Computer Science at B.Sc. level** in Surendranath College under Calcutta University in 1994. It is the **1st undergraduate college under Calcutta University where this subject was started first.**

- Member, **Under-graduate Board of Studies of Computer Science, Calcutta University**, India, (2003-till date), ongoing.

- **Chairperson, Post-Graduate Board of Studies of Computer Science. Surendranath College, Calcutta University, (2016-2018)**

- Life Member, Indian Meteorological Society, India, (2000-till date).
- Member, IEEE-GRSS (Geoscience & Remote Sensing Society) Kolkata Chapter (2014 – contd).

- Member, **Royal Meteorological Society, UK, 2004.**
- Member, Board of Inspection, Calcutta University (2022 – till date)

- **Reviewer of International Journals of the Publication House of Elsevier, Atmosphera, and Common Ground Publishers.**

- Govt. Nominee, Governing Body, Rammohan College, Calcutta University (2022-2024)
- Calcutta University Nominee, Governing Body, Vidyasagar College, Calcutta University (2022- till date)
- Calcutta University Nominee, Governing Body, Sister Nibedita Govt. General Degree College for Girls, Calcutta University, (2023- till date).

11. Research Fields of Interest:

- Global Relation in the occurrences of Severe Thunderstorms – ENSO forcing- GCM.
- Studies of Cloud microphysics by applying Pattern Recognition Techniques.
- Image Processing, Data Mining of several Atmospheric events
- Studies of different mesoscale and synoptic scale phenomena in Troposphere, and their coupling effect with the Stratosphere and Ionosphere
- Attenuation in Ka and Ku bands – effects of Raindrops, ENSO and solar cycle
- Effects of Rossby and Gravity waves on mesoscale features
- Study on Monsoon rainfall
- Simulations of the QBO Stratospheric Dynamics
- Study on Atmospheric Electricity – Global Electric Circuit (GEC)
- Application of different tools of Artificial Intelligence on Weather feature Analysis
- Big data analysis in spatio-temporal Atmospheric domain.

12. Publications:

List of Publications of Dr. Himadri Bhattacharyya Chakrabarty:
(all the publications are in peer reviewed journals)

1. Sonia Bhattacharya and Himadri Bhattacharyya Chakrabarty, 2023, "A Comparative Study of Severe Thunderstorm among statistical and ANN methodologies**",** *Scientific Reports, nature portfolio,* ISSN 2045-2322, Volume 13(1), DOI: 10.1038/ S4 1598-023- 38736- z. Impact Factor: 4.6

2. Himadri Bhattacharyya Chakrabarty, Sonia Bhattacharya and Ajoy Chakraborty, 2022, "A Comparative Study on the Application of K-NN, ANN and RBFN to predict Severe

Thunderstorm", Full paper published in *Proc. of 2022 International Conference on **Image Processing, Computer Vision and Pattern Recognition (IPCV'22), World Congress in Computer Science, Computer Engineering, and Applied Computing (CSCE'22)***, USA, July, 2022.

3. Himadri Chakrabarty and Sonia Bhattacharya, 2018, "Application of Machine Learning Technique to Nowcast Severe Atmospheric Event", Full paper published in *Proc. of 2018 International Conference on Image Processing, Computer Vision and Pattern Recognition (IPCV'18),* La*s Vegas, USA,* pp. 137-141 ; ***World Congress in Computer Science, Computer Engineering and Applied Computing (CSCE'18)*** ; ISBN: 1- 60132- 485-5.

4. Saumen Ghosh, Himadri Bhattacharyya Chakrabarty, Sarashi Jana and Pratap Kumar Jana, October, 2018, "Characteristics of Antarctic Ozone Hole", *Zenith International Journal of Multidisciplinary Research,* Volume 8 (10), pp. 225-231, ISSN: 2231-5780.

5. Himadri Chakrabarty and Sonia Bhattacharya, 2016, "Forecasting of Severe Thunderstorms using K-Nearest Neighbor Technique", Full paper published in *Proc. of 20th International Conference on Image Processing, Computer Vision and Pattern Recognition (IPCV'16),* La*s Vegas, USA,* July 25-28, 2016, pp. 310-315, **WORLDCOMP'16**, ISBN: 1-60132-442-1.

6. Himadri Chakrabarty and Dyuti Chatterjee, August, 2015, "Application of Machine Learning Technique to Predict Severe Thunderstorms using upper air data", *International Journal of Scientific and Engineering Research,* ISSN. 2229-5518, Volume 7, Impact factor: 3.2.

7. Sonia Bhattacharyya, Anustup Chakraborty and Himadri Chakrabarty, July, 2015, "Forecasting of Severe Thunderstorm using upper air data", *International Journal of Scientific and Engineering Research,* ISSN. 2229-5518, Volume 6, Issue 7, pp. 306-310, Impact factor: 3.2.

8. Himadri Chakrabarty and Sonia Bhattacharya, January, 2015, "Application of K-Nearest Neighbor Technique to Predict Severe Thunderstorms", *International Journal of Computer Applications,* ISSN. 0975-8887, Volume 110, Number 10, pp. 1-4,   Impact Factor: 0.9.

9. Himadri Chakrabarty and Sonia Bhattacharya, March 2014, "Prediction of Severe Thunderstorms Applying Neural Network using RSRW Data", *International Journal of Computer Applications,* ISSN. 0975-8887, Volume 89, Number 16, pp. 1-5, doi:10.5120/15712-4362.   Impact factor: 0.9;

10. Himadri Chakrabarty, Dyuti Chatterjee and Anustup Chakraborty, Feb., 2014, "Relationship of Attenuations at Ka and Ku Bands with Sea Surface Temperature of Pacific Ocean", *International Journal of Scientific and Engineering Research*, , ISSN 2229-5518, Volume 5, Issue 2., pp. 194-197,   Impact Factor: 3.2.

11. Himadri Chakrabarty and Anustup Chakraborty, September, 2013, "Sunspot Number and Severe Thunderstorms of Kolkata, India", *International Journal of Scientific and Engineering Research,* ISSN: 2229-5518, Volume 4, Issue 9, pp. 2112-2117,   Impact Factor: 3.2.

12. Himadri Chakrabarty, C.A. Murthy, Sonia Bhattacharya, and Ashish Das Gupta, May, 2013, "Application of Artificial Neural Network to predict Severe Thunderstorms using RAWIND data", *International Journal of Scientific and Engineering Research,* ISSN: 2229-5518, Volume 4. Issue 5, pp. 1313-1318.   Impact Factor : 3.2.

13. Himadri Chakrabarty, C.A. Murthy, and Ashish Das Gupta, Dec, 2013, "Application of Pattern Recognition Techniques to predict severe thunderstorms", *International Journal of Computer Theory and Engineering,* ISSN: 1793-8201, Vol.5, Number 6, pp. 850-855, DOI: 10.7763/ IJCTE.2013.V5.810.   Impact factor: 3.5

14. Himadri Chakrabarty, C.A. Murthy and A.K. Das Gupta, 2012, "Relation between severe high wind thunderstorms of Florida and SST of Nino1+2 Region", *The International Journal of Climate Change: Impacts and Responses,* Volume 3, Issue 3, pp. 119-131, ISSN: 1835-7156.

15. Tanmay Basu, C.A.Murthy and Himadri Chakrabarty, 2012, "A Tweak on K-nearest neighbor Decision Rule", Full paper published in *Proc. of 16th International Conference on Image Processing, Computer Vision and Pattern Recognition(IPCV'12),* La*s Vegas, USA,* July 16-19, pp. 929-935.

16. Himadri Chakrabarty, 2010, "Synoptic aspects of Nor'wester and its Impact to the people in Kolkata, North-East India", published in *International Journal of Science in Society,* Volume 1, Number 4, pp. 135-146, ISSN: 1836-6236.

17. Himadri Chakrabarty and Prof. C.A. Murthy, 2010, "Inversion in the High Wind Thunderstorms between Kolkata of North-East India and Florida of South-East USA", *International Journal of Climate Change: Impacts and Responses*, Volume 2, Number1, pp.21-32, ISSN: 1835-7156.

18. Himadri Chakrabarty and C.A. Murthy, 2010, "Influence of ENSO on severe thunderstorms of Kolkata", Presented in the national seminar TROPMET in Kolkata, conducted by Indian Meteorological Society, India Meteorological Department, Govt. of India. Full paper in *Vayu Mandal*, ISSN: 0970-1397.

19. Himadri Chakrabarty, C.A. Murthy, and A.K. Das Gupta, 2009, "Influence of Nino temperatures on thunderstorms of Florida and Kolkata", presented in World Climate Conference **(WCC-3),** 2009, conducted by **World Meteorological Organization (WMO) in Geneva, Switzerland**. Full Article has been *published in WMO Bulletin*, ISSN: 0042-9767.

20. S. Chowdhury, Prof. S. Mitra and Himadri Chakrabarty, June, 2004, "A Connectionist Approach to Thunderstorm forecasting", presented in **International** conference in Banff,

Alberta, **Canada organized by** *North American Fuzzy & Information Processing Society* **(NAFIPS).** Full paper published in the Proceedings of IEEE, 0-7803-8376-1/04, IEEE.

21. Himadri Chakrabarty, June, 2003, "Interaction of Ocean and PBL for extreme climate in N-E India", accepted in International Symposium on Weather and Small-scale Phenomena**, organized by** *The Royal Meteorological Society, U.K.* and published in their Proceedings. (Code: OQLHDK219- W021, Abstract: 219). Cited in the Website: http://www.royal-met-soc.org.uk.

22. Himadri Bhattacharyya Chakrabarty, Prof. A.K. Sen and S.P. Ghosh, 21-22 April, 1994, "Studies of Soil Moisture by Radiometric Remote Sensing Technique", Presented in the National level Seminar organized *by* ***Central Board of Irrigation and Power, Govt. of India***. Venue: Bhubaneswar, **Orissa**. Full paper Published in Proceedings of the conference, pp. 335-353.

13. Book Chapters Published:

1. Saumen Ghosh and Himadri Bhattacharyya Chakrabarty, 2024, "Role of Water Vapor and other Greenhouse Gases on Ozone layer", **Non-conventional Renewable Energy: Impact on Environment",** pp. **59-66, ISBN: 978-93-5506-626-8,** Publisher: HSRA Publications.

2. Sonia Bhattacharya and Himadri Bhattacharyya Chakrabarty, 2023, "Forecasting Severe Thunderstorm by Applying SVM Technique on Cloud Imageries, **Lecture Notes on Data Engineering and Communication Technologies,** Volume 137, pp. 109-119, Book Title: **Data Management, Analytics and Innovation, Publisher: Springer Nature Singapore** (SCOPUS). ISBN: 978-981-19-2599-3.

3. Sonia Bhattacharya and Himadri Bhattacharyya Chakrabarty, 2021, "A Comparative Study between True Color and Grayscale Radar Imageries of Thundercloud", Lecture notes on Networks and Systems, Volume 147, pp 102-115, **Computers and Devices for Communication, Publisher: Springer Nature Singapore** (SCOPUS, SCIMAGO). ISBN: 978-981-15-8365-0.

4. Saumen Ghosh, Himadri Bhattacharyya Chakrabarty and Moheeyoshee Maitra, 2021, " Determination of Ozone Density Applying Artificial Intelligence", pp 293-299, **Data Management, Analytics and Innovation, Advances in Intelligent Systems and Computing 1175,** ISBN: 978-981-15-5619-20. **Publisher: Springer Nature Singapore Pvt. Ltd.**

5. Sonia Bhattacharya and Himadri Bhattacharyya Chakrabarty, 2020, "Studies on Radar Imageries of Thundercloud by Image Processing Technique", Book title: **Data Management, Analytics and Innovation, Advances in Intelligent Systems and Computing 1042**, Volume 1042, pp. 1-16, ISBN: 978-981-32-9948-1. **Publisher: Springer Nature Singapore Pvt. Ltd.**

14. Conference/ Seminar/ Workshop:

Papers Presented/ Participation in Conferences, Seminars, Workshops, Symposia

Sl. No	Title of the Paper Presented	Title of Conference/ Seminar held	Organized by	International/ National/ State/ Regional Level	Capacity of participation
1.	Application of Artificial Intelligence in Atmospheric Data Analysis	**Summer Internship Program** on Meteorology and Geography	Pravu Jagatbandhu College, Cal. University & **Indian Met.Society**	National Level July, 2024	**Resource Person; Invited Lecture** delivered
2.	Artificial Intelligence & Digital Empowerment	**Faculty Development Program**	Pravu Jagatbandhu College, Cal. University	National Level 22nd Nov, 2023	**Resource Person; Invited talk** delivered
3.	Inclusive and Sustainable Development in the Atmanirbhar Bharat	**ICSSR-ERC** sponsored Mid-year National Seminar	Pravu Jagatbandhu College, CU & A.J.C.Bose College, CU	National Level, 7th Oct, 2023	**Chairperson** of a session
4.	Digital Logic Experiments in the Laboratory Classes Based on Syllabus of National Education (NEP) -CCF of Sem-1 in Computer Science	Workshop on Practical Training in Digital Logic based on **NEP-CCF Syllabus**	**Bangabasi College in collaboration with UG-Board of Studies, Computer Sc.**	University Level, Held in Bangabasi College on 13th Oct., 2023	**Organizer, Chief Patron Trained the teacher participants** of different colleges
5.	Renewable Energy: Impact to make Clean and Green India	**ICSSR sponsored at Azadi ka Amrit Mahotsab**	**Bangabasi College**	**International**, Held in Meghnad Saha Auditorium, CU on August, 2023	**Chief Organizer as a Principal of the College**
6.	Implementation of National Education Policy in Undergraduate Level	Seminar on **National Education Policy (NEP)**	Pravu Jagatbandhu College, Cal. University	National Level, Held in July, 2023	**Resource Person; Invited talk** delivered

7.	Non-conventional Renewable Energy: Impact on Environment	Non-conventional Renewable Energy: impact on Environment	Bangabasi Coll, R.K.Mission Residential Coll, A.J.C.Bose Coll, Ananda Mohan Coll, City Coll. Of Commerce	**International,** Held in R.K.Mission on 8th Apr, 2023	**Organizer and Patron**
8.	Computational Intelligence and Internet. Discussion on Course Syllabi of UG-BOS Computer Sc, Cal. University	National Seminar on Computational Intelligence and Internet of Things	University of Calcutta and Bangabasi College	National Level, Held in CRNN auditorium, Cal. University on 25thNov, 2022	**Organizer, Chief Patron & Chaired a session**
9.	"A Comparative Study on the Application of K-NN, ANN and RBFN to predict Severe Thunderstorm",	*International Conference on **Image Processing, Computer Vision and Pattern Recognition (IPCV'22),***	**World Congress in Computer Science, Computer Engineering and Applied Computing (CSCE'22)**	**International,** Held in Las Vegas, USA on July, 2022	Presented a paper. Also **Chairperson of a session**
, 10.	Application of Machine Learning Technique to Nowcast Severe Atmospheric Event",	*International Conference on Image Processing, Computer Vision and Pattern Recognition (IPCV'18),*	**World Congress in Computer Science, Computer Engineering and Applied Computing (CSCE'18)**	**International,** Held in Las Vegas, USA on 29th July -2nd Aug, 2018	Presented a paper. Also **Chairperson of a session**
11.	Application of Multi-Layer-Perceptron on selected Weather data to predict Severe Convective Event	TROPMET-2016 National Symposium on Meteorology	Indian Meteorological Society, **India Meteorological Dept., Govt.of India**	National Level. Held in Bhubaneswar, India on Dec., 2016.	Presented the paper
12.	Harmful effects of Radiation from cell-phone towers	Fourth International Conference on Science in Society	Common Ground Publisher& **University of California, Berkeley, USA**	**International,** held in California, USA. On Nov, 2012	Presented the paper

13.	A Comparative Study on the Occurrences of Severe Thunderstorms in Kolkata, India and in South-East USA"	Fourth Interntional Conference on ClimateChange: Impacts and Responses	Common Ground Publisher & **University of Washington, Seattle, USA**	**International,** held in Seattle, Washington, USA. Held on July,2012	Speaker, Presented the paper
14.	Recycling of Electronic Waste to save the environment	Second International Conference on Climate Change: Impacts and Responses	Queensland University, Brisbane, Australia	**International,** held in Brisbane, **Australia.** Held on July, 2010	Paper presented
15.	"Influence of Nino temperatures on thunderstorms of Florida and Kolkata",	**World Climate Conference (WCC-3)** **Funded by UNO**	**World Meteorological Organization (WMO) in Geneva, Switzerland**.	**International. Held in Geneva, Switzerland on 2009. Funded by United Nations Organization**	Speaker **Invited talk**, and Poster presentation also done
16.	Dynamic Systems for the Generation of Kalbaishakhi	TROPMET-2001 National Symposium on Meteorology for Sustainable Development	Indian Meteorological Society, **India Meteorological Dept., Govt.of India**	National, Held in Mumbai, India in 2001.	Speaker, presented the paper
,17.	Duplex Voice Communication Link via Optical Fibre	Symposium of Optical Society of India (OSI)	Dept of Optics & Opto-electronics, Cal. University & OSI	National Level, Held in Central Glass & Ceramic Research Institute (CGCRI), Kolkata on 1988	Speaker, presented the paper. Abstract published in Seminar Proceedings