Bio-data of Prof Dhruba K Bhattacharyya

A. General Information :

a. Name   : Dhruba Kumar Bhattacharyya
b. DoB   : February 25, 1966
c. Permanent Address   : J P A Sanjog Path, Mazgaon, Tezpur- 784001, Assam, India
d. Office Address   : Professor, Department of Computer Science and Engineering,
                                 Tezpur University, Tezpur 784 028, Assam, India
e. Email   : dkb@tezu.ernet.in; dhrubakrb@gmail.com

B. Present Position   :

a. Designation   : **Sr Professor**, Department of CSE
b. Organization   : Tezpur University, Tezpur, India
c. Date of appointment   : December 31, 2014
   (present position)
d. Total Experience   : 32 years

C. Details of Experience   :

SI	Post Held	Organization	Nature of Duties	Experience
01	Professor (HAG Scale)	Tezpur University	UG / PG Teaching, PhD Guidance, Extramural research, and Administration.	10 yrs
02	Professor	Tezpur University	UG / PG Teaching, PhD Guidance, Extramural research, and Administration.	10 yrs 05 months
03	Associate Professor	Tezpur University	UG / PG Teaching, PhD Guidance, Extramural research, and Administration.	05 yrs
04	Asst Professor	Tezpur University	UG / PG Teaching and Extramural research	04 yrs 05 months
05	Lecturer	Jorhat Engineering College (Govt)	UG / PG Teaching and research	02 yrs 11 months

D. Major Research Grants (Completed)

Client/Organization's name	Nature of project	Duration of project	Amount (in L)
ISEA Phase II Catgry I at CSE, TU/Funded by **Ministry of IT**	R&D	5 yrs (2015-21)	65.00
Centre of Excellence on Machine Learning Research & Big Data Analytics, CSE, TU / Funded by **MHRD**	R&D	5 years (2014-19)	400.00
Big Data Analytics in Bio,NS & Robotics, CSE, TU / Funded by **UGC under SAP DRS II**	R&D	5 years (2015-20)	78.00
High Performance Computing Centre with Super Computing facilities at CSE, TU / Funded by **Ministry of IT**	R&D	5 years (2015-20)	120.00
DDoS Attack Detection, CSE, TU/Funded by **Ministry of IT**	R&D	2 yrs (2012-14)	56.00
Beyond Clustering Gene Expression Data, CSE, TU (in collaboration with CSCR, ISI, Kolkata) / Funded by **DST**	R&D	3 years (2009-13)	10.00
Machine Intelligence & NLP:UGC SAP I,TU/ **UGC** Funded	R&D	5 yrs(2009-14)	74.00
Privacy Preserving Data Mining / Funded by AICTE	R&D	2 yrs (2010-12)	5.00
Network Intrusion Detection using Online and Offline DM Technique/ Funded by **Ministry of IT**	R&D	2 years (2010-12)	47.00
Multi-objective Association Mining / Funded by **AICTE**	R&D	2 yrs (2010-12)	4.70
Optimal Cluster Detection Over High Resolution Satellite Imagery(in collaboration with NESAC)/ Funded by **ISRO**	R&D	2 years (2008-10)	7.29
Modernization and Removal of Obsolescence of Laboratories, CSE, TU/ Funded by **AICTE**	Lab enhance	2 years (2007-09)	15.00
Cryptographic Schemes for Digital Media Content Protection at CSE, TU/ Funded by **DRDO**	R&D	3 years (2002-05)	1.65

E. Major Research Grants (Ongoing)

Client/Organization's name	Nature of project	Duration of project	Amount (in L)
Malware and Malware-based Attacks Using Statistical and ML Approach / Funded by **Ministry of IT**	R&D	3 years (2023-2026)	64.00
Radiomics with Machine learning Methods towards Prediction of Gall Bladder / Funded by ICMR	R&D	3 yrs	18.07

F. Books Authored/Edited and Other Contributions:

No of Books	TECHNICAL REFERENCE BOOKS
Fifteen (15)	1. **Fundamentals of Data Science: Theory and Practice.** Authors: Jugal K Kalita**, Dhruba K Bhattacharyya** and S Roy, **2024** Publisher**: Elsevier** (manuscript submitted) ; Publication Date: April, 2024 2. **Gene Expression Data Analysis: A Statistical and Machine Learning Perspective.** Authors: **D K Bhattacharyya,** P Barah and Prof Jugal K Kalita of UCCS, USA; Publisher: **CRC Press, Taylor & Francis Gr**. Publication Date: November, **2021**; ISBN: 9780367338893; 3. **DDoS Attack: Evolution, Detection, Prevention, Reaction and Tolerance.** Authors: **D K Bhattacharyya** and Prof Jugal K Kalita of UCCS, USA; Publisher: **CRC Press, Taylor & Francis Gr**. Publication Date: May, **2016**; ISBN-10: 1498729649; ISBN-13: 978-1498729642 4. **Network Anomaly Detection from Machine Learning Perspective.** Authors: **D K Bhattacharyya** and Prof Jugal K Kalita of UCCS, USA; Publisher: **CRC Press, Taylor & Francis Gr**; Publication Date : July, **2013**. ISBN: 978-1-4665-8208-8. 5. **Network Traffic Anomaly Detection and Prevention-- Concepts, Techniques and Tools**; Co-authors: Dr M Bhuyan (KU, India), **D K Bhattacharyya** and Prof Jugal K Kalita (UCCS, USA); Publisher: **Springer**, 5th September, **2017** [ISBN: 978-3319651866; Pages: 263] 6. **Clustering Techniques in Spatial Data Analysis** Co-author: S Sharma, **D K Bhattacharyya,** R Sharma and J K Kalita (UCCS, USA) Publisher: Lap Lambert Acad Publ., **Germany**, Publication Date : Jan 18, **2012** ISBN : 978-3-8473-4150-5 7. **Data Mining Techniques and Its Application in Medical Imagery.** Co-author : Dr Swarup Roy, NEHU, Meghalaya and **D K Bhattacharyya.** Publisher : VDM Verlag, **Germany**, Publication Date : 13 August, **2010** ISBN 978-3-639-26746-4 **Edited** the following Conference/Workshop Proceedings as books: 1. Proc of *Pattern Recognition and Machine Intelligence*: 8th Int'nl Conf, PReMI 2019, **Springer,** India, December 17-20, 2019, **Part I** 2. Proc of *Pattern Recognition and Machine Intelligence*: 8th Int'nl Conf, PReMI 2019, **Springer,** India, December 17-20, 2019, **Part II** 3. *Network and Information Security*, **D K Bhattacharyya** and Prof N Sarma; Published by: *Narosa Pvt Ltd, New Delhi*, Mar'13; ISBN:978-81-8487-314-6 4. *Machine Intelligence- Recent Advances*, **D K Bhattacharyya** and Prof Utpal Sharma and Dr B Nath; Published by: *Narosa Pvt Limited*, New Delhi, ISBN: 978-81-8487-140-1, Mar'11 5. *Network Security: Issues, Challenges and Techniques*, **D K Bhattacharyya** and Prof N Sharma and published by *Narosa Pvt Ltd, New Delhi* , June'10; ISBN: 978-81-8487-088-6. 6. *Algorithms in Its Application* **D K Bhattacharyya** and Prof Utpal Sharma and published by *Narosa Pvt Ltd., New Delhi* , Jan'10; ISBN: 978-81-8487-082-4. 7. *Networks, Data Mining and Artificial Intelligence*: **D K Bhattacharyya** and Prof S M Hazarika and published by *Narosa Pvt Ltd., New Delhi* Jan'06; ISBN:81-7319-755-5. 8. *Networks, Security and Soft Computing*: **D K Bhattacharyya** and Prof S M Hazarika and published by *Narosa Pvt Ltd., New Delhi* , March'07; ISBN:978-81-7319-868-7
Editorships	• Guest Editor, **Springer Nature** Journal of Computer Science (Spl Issue), 2020 • Associate Editor, **Springer Nature** Journal of Computer Science, 2022 • On the Editorial Board of Int'nl Journal of Intelligent Information Processing (IJIIP, an INSPEC/Google Scholar/DBLP/Scirus/Ulrich's indexed journal) since 2010.

Peer reviewer of	(a) IEEE Transactions on (i) TCBB, (ii) KDE, (iii) PAMI, (iv) PDM, (v) SiP, (vi) Neural Networks, (vii) NSM, etc (b) Elsevier's (i) JNCA, (ii) Expert Syst with Applns, (iii) PR, (iv) PRL, (v) CDM, (vi) CAA, (vii) Information Sc, (viii) PR; (c) Oxford Univ's (i)The Computer Journal , (ii) Bioinformatics Other noted journals: (i) PLOS, (ii) BMC Bioinformatics, Scientific Reports, NetMAHIB, etc
Member of the Int'nl Advisory Board	Serving as member of Advisory Boards/Programme Committees of the following Int'nl Conferences: Conference Theme: **Bioinformatics** BIOT'04, BIOT'05, BIOT'06 and BIOT'07, Premi19, Premi'17, Premi'15 Conference Theme: **Networks, Algorithms, Architectures, Data Mining, Security, Distributed Systems** ICDCN, ADCOM2007, ADCOM2008, MM-CNIT2007, ICAC2008, ICCSIT2010, IJJCE2009, IJJCE2011, PDCTA'11, IDCTA2012, JDCTA2012, CICN2012, ARTCom2009, IJJCE2010, NetCoM 2012, IJJCE2012, ICIS2012, BDA2012, CCSIT2012

G. Publications/Citations/H-index :

Total Publications	**358**	(Three hundred and fifty eight)
Books Authored/Edited (in English & Assamese)	**23**	(Fifteen)
PhD Thesis Supervised	**25**	(Twenty five)
Total Citations (Google Scholar)	**10130 (**	Ten thousand one hundred and thirty**)**
H-index (Google Scholar)	**45**	(Forty five)
*i*10	**130 (**	One hundred thirty**)**

I. AI/ML Tools Developed during last five Years

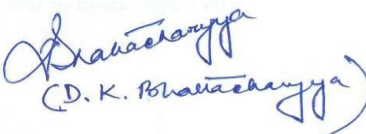| SI	Tool name	Brief Description
01	ComFiR	A protein-protein network complex finding and ranking tool to support diagnosis of disease like HIV1 and Alzheimer.
02	CNCM	An unsupervised connectivity based protein-protein interaction network (PPIN) complex finding tool.
03	ICS	A novel correlation measure for bicluster analysis of gene expression data. The measure is able to handle shifting, scaling and shifting-and-scaling patterns.
04	IFS-KNN	A tool for incremental feature selection and large data classification.
05	GO based PPI tool	A tool to extract biologically enriched complexes from PPI networks using GO semantic similarity.
06	THDTricluster	A robust tricluster algorithm-based tool to support diagnosis of time series gene expression data such as HIV1, Alzheimer, etc
07	Weighted Edge based Clustering (WEC) tool	A tool to extract highly inter-connected and co-expressed protein complexes from PPI networks using gene expression correlation between the interacting proteins.
08	Core-Attachment with Gene (CAG) tool	A biologically relevant protein complex detection using gene expression in PPI networks
09	PatGeneClus tool	An integrated clustering tool incorporating gene expression and gene ontology to identify biologically significant gene clusters.
10	CSC	A protein complex finding tool developed using unsupervised learning.
11	IFS-KNN	It is an incremental feature selection supported KNN classifier.
12	PROCODE	An unsupervised protein complex finding tool.

J. Achievements/Awards received:

SI	Award/Fellowship	Elected/Honorary Fellow	Awarded by	Year
01	**Fellow** of IEI	Elected	Institution of Engineers India	March, 2019

02	**Fellow** of IETE	Elected	Institution of Electronics and Telecomm Engineers	September, 2013
03	**Senior Member,** IEEE	Elected	IEEE	August 10, 2019
04	**Pro Vice Chancellor**	Selected	As per Statute, TU by BoM	April 1, 2021 to April 3, 2023
05	**Vice Chancellor (Acting)**	Selected	As per Statute, TU	September 9, 2022 to April 3, 2023
06	Four (**04**) **Best Paper Awards** One (**02**) **Best Thesis Award**	Selected from 310+ submissions	• ACM ICACCI'12, India • IEEE SCIT'15, India • IEEE ICADW'16, India • ISEA-ISAP'20 (Paper) • SocPros'13, IIT Roorkee • ISEA-ISAP'20 (Thesis)	2012 2015 2016 2020 2013 2020
07	**Chief Investigator** of **C**entre **o**f **E**xcellence (in ML research)	One among twenty Institutions in India	Ministry of HRD (now MoE)	2014-20
08	Guest **Editor**, Springer Nature Journal of Computer Science	Selected	Springer-Nature Group (for Special Issue)	2020
09	**Associate Editor**, Springer Nature Journal of Computer Science	Selected	Springer-Nature Group	2022 to till date
10	Among the Top 2% Scientists across the Globe in the field of "**AI and Networking**".	Selected	In the Report prepared by Stanford Professors and published in PLOS journal.	2021-2022 elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3
11	Among the Top 6% Scientists across the Globe in the field of "**AI and Networking**".	Selected	In the Report prepared by Stanford Professors and published in PLOS journal.	2023
12	K7 Cybersafe Award	Selected by juries	K7 Computing	December, 2019
13	Visiting Professor (03 months)	Invited	UCCS, USA	2012
14	AC member of Cotton University	Nominated	**His Excellency Honorable** Governor of Assam	2021
15	Member, **Policy Formulation** Committee	Nominated	Department of Science and Technology, GoI	2017
16	Member, Task Force for Higher Education, GoAssam	Selected	Ministry of Education, Govt of Assam	2018-19
17	Member, **Policy Formulation** Committee (Science, Technology and Innovation)	Selected	Govt of Assam	2023-

K. New Course Introduced:

a) Data Mining and Data Warehousing (a 4 credit course for BTech/MCA/MTech programmes)
b) Data Mining in Security (a 4 credit course for BTech/ MTech/PhD programmes)
c) Doctoral Research Methodology (a 4 credit course for PhD programme)

I, hereby, declare that all the statements/ particulars made/furnished above are true, complete and correct to the best of my knowledge and belief.

(D. K. Bhattacharyya)

Prof. D.K. Bhattacharyya
Deptt. Of Computer Sc. & Engg.
Tezpur University.

Place : Tezpur   (**D K Bhattacharyya**)
Date : 15 December, 2024