

Anal Acharya



1. BSc. (Hons.) in Mathematics, Vidyasagar College, **University of Calcutta**, 1993.
2. M.C.A, **Jadavpur University**, 1997.
3. M.E(I.T) ,**West Bengal University of Technology**, 2006.
4. Ph.D. (Tech.) in Computer Science & Engineering from **University of Calcutta** awarded on 13.07.2017.

Email: anal.acharya@sxccal.edu

Profile: Anal Acharya is **Associate Professor** in the Department of Computer Science in St. Xavier's College, Kolkata. He was the **Head** of the **Department of Computer Science** from the period of **01.01.2009 to 30.06.2013**. His present research interests are **Educational and Social Data Mining**. He has **above 25 years of experience** in undergraduate and post graduate teaching. He has several accepted papers in International Conferences and Journals. He is a **Principal Supervisor** in the Postgraduate and Research Department of Computer Science under **Ph.D. program** of St. Xavier's College, Kolkata affiliated to University of Calcutta. He is a member of the **Board of Studies** of Post Graduate Department of Data Science of the college for the Bsc and M.Sc Data Science Course. He is an invited member of the **Academic Council** of the college.

The details of his research/ publications are given below:

A. Ph.D. Thesis Supervised

Debabrata Datta (2025), *Materialized View Generation and its Applications*, St. Xavier's College, under University of Calcutta, awarded on 23.08.2025.

B. Papers in International Journals

Serial	Paper Details
1.	Avishek Barman, Anal Acharya, Soumen Mukherjee, <i>Exploring the Role of XAI in Academic Performance Prediction: A Bibliographical Approach</i> , ZKG International, October 2024, Volume: IX, Issue: II. (Indexed by SCI-E)

2.	Debabrata Datta, Anal Acharya, Kashi Nath Dey, <i>Content Based Image Retrieval Through Materialized Views</i> , ZKG International, December 2023, Volume: VIII, Issue: II. (Indexed by SCI-E)
3.	Debabrata Datta, Rush Guha, Neelabha Banerjee, Sohan Adhikary and Anal Acharya, <i>Examination Scheduler using a Linear Time Graph Coloring Algorithm</i> , ICTACT Journal on Soft Computing, July 2022, Volume: 12, Issue: 04. (UGC CARE List)
4.	Debabrata Datta, Anweshan Mukherjee, Soumen Mukherjee, Arup Kr. Bhattacharjee, Anal Acharya, <i>Image Classification Using Model Ensembling</i> , ICTACT Journal on Image and Video Processing, May 2022, Volume: 12, Issue: 04. (UGC CARE List)
5.	Srijita Majumdar, Debabrata Datta, Arpan Deyasi, Soumen Mukherjee, Arup Kumar Bhattacharjee, Anal Acharya, <i>Sarcasm Analysis and Mood Retention using NLP Techniques</i> , International Journal of Information Retrieval Research, IGI Global (Indexed by E-SCI)
6.	Aashijit Mukhopadhyay, Sneharshi Sur, Akash Ghosal, and Anal Acharya, <i>A New Score Generation Algorithm for Student Concept Map Evaluation</i> , Journal of Educational Technology Systems, SAGE Publications. (UGC CARE List)
7.	Anal Acharya, Devadatta Sinha, <i>A Mixed Strategy for Collaborative Group Formation and Its Learning Outcomes</i> , Journal of Educational Technology Systems, SAGE Publications. (UGC CARE List)
8.	Anal Acharya, Devadatta Sinha, <i>An Intelligent Web based system for Diagnosing Student Learning Problems using Concept Maps</i> : Journal of Educational Computing Research, SAGE Publishers. (Indexed by SSCI, SCOPUS, EBSCO)
9.	Anal Acharya, Devadatta Sinha, <i>An Educational Data Mining Approach to Concept Map Construction for Web based Learning</i> , Informatica Economică vol. 21, no. 4/2017. (Indexed by Google Scholar, EBSCO)
10.	Anal Acharya, Devadatta Sinha: <i>Smart Concept Map Generation for Learning Using Class of Hash Functions</i> , Smart Computing Review, Volume 5, Issue. 4, pp 329-339, August 2015. (Indexed by CrossRef, DBLP, DBPIA, Google Scholar, EBSCO)
11.	Anal Acharya, Devadatta Sinha: <i>A Multi-Dimensional Assessment Model to Evaluate Web Based Learning Systems</i> , Informatica Economica, Volume 19, Issue 3, pp 32-45, September 2015. (Indexed by Google Scholar, EBSCO)
12.	Anal Acharya, Devadatta Sinha, Anurag Sarkar, Dibyabivya Seth, Kaustav Basu: <i>A 'Mixed' Approach to Smart Group Formation in Collaborative Learning</i> . Smart Computing Review, Volume 5, Issue. 5, pp 483-497, October 2015. (Indexed by CrossRef, DBLP, DBPIA, Google Scholar, EBSCO)
13.	Anal Acharya, Devadatta Sinha: <i>A Study on the Use of Concept Maps in Web Based Learning</i> , International Journal of Computer Science and Information Technologies, Volume 6, Issue 5, pp. 4191-4200. (Indexed by SciVerse SCOPUS, Google Scholar)
14.	Anal Acharya, Devadatta Sinha : <i>Early Prediction of Students Performance using Machine Learning Techniques</i> , International Journal of Computer Applications, Volume 107, Issue 1, pp 37-43, December 2014. (Indexed by Google Scholar, EBSCO)
15.	Anal Acharya, Devadatta Sinha : <i>Application of Feature Selection Methods in Educational Data Mining</i> , International Journal of Computer Applications, Volume 103, Issue 2, pp 34-38, October 2014. (Indexed by Google Scholar, EBSCO)
16.	Anal Acharya, Devadatta Sinha : <i>Assessing the Quality of M-Learning Systems using ISO/IEC 25010</i> , International Journal of Advanced Computer Research, Volume-3, Number-3, Issue-12, pp 67-75, September 2013. (Indexed by Google Scholar, EBSCO)
17.	Anal Acharya, Soumen Mukherjee: <i>Designing A Re-Configurable Fractional Fourier Transform Architecture Using Systolic Array</i> , International Journal of Computer Science Issues, Vol. 7, Issue 6, pp 159-163, November 2010.

C. Book Chapters

Serial	Chapter Details
1.	Swarup Kumar Shaw, Vinayak Jaiswal, Sun Ghosh, Anal Acharya and Debabrata Datta, <i>Twitter Sentiment Analyser Using NLP Techniques</i> , Empowering Low-Resource Languages With NLP Solutions, IGI Global
2.	Madhumita Choudhury, Durba Paul, Anal Acharya, Nisha Banerjee and Debabrata Datta, <i>Face Mask and Social Distancing Detection in Real Time</i> , Perspectives on Social Welfare Applications' Optimization and Enhanced Computer Applications, IGI Global.
3.	Debabrata Datta, Anal Acharya, Kwanan Mondal, Meghna Mondal and Tanushree Sarkar, Customer Segmentation Using K-Means Algorithm, Navigating Organizational Behavior in the Digital Age With AI, IGI Global
4.	Soumili Dey, Suchandra Datta, Rohan Das, Debabrata Datta and Anal Acharya, <i>Crime Analysis on Spatial Domain Using Machine Learning</i> , Artificial Intelligence for Societal Development and Global Well-Being, IGI Global.
5.	Anweshan Mukherjee, Rajarshi Ghosh, Ashwin Gupta, Debabrata Datta and Anal Acharya, <i>Sentiment Analysis Using LSTM</i> , Encyclopedia of Data Science and Machine Learning, IGI Global.
6.	Anal Acharya, Madhurima Ghosh, Saran Jha, <i>Automated Detection and Removal of Cycles in a Concept Map</i> , Advancing Online Course Design and Pedagogy for the 21st Century Learning Environment, IGI Global.
7.	Soumili Dey, Suchandra Datta, Anal Acharya, and Debabrata Datta, <i>Blended Learning: Is it the way ahead?</i> Digital Pedagogies and the Transformation of Language Education, IGI Global
8	Anal Acharya, Soumen Mukherjee, Arup Kumar Bhattacharjee, Debabrata Datta, Arpan Deyasi, <i>COVID-19: Will it be a Game Changer in Higher Education in India?</i> , Data Science for Covid-19, Elsevier.
9.	Soumili Dey, Suchandra Datta, Anal Acharya, and Debabrata Datta, <i>A Set of Empirical Models to Evaluate E-learning Web Sites and Their Comparison</i> , Computational Intelligence in Digital Pedagogy, Volume 197, Intelligent Systems Reference Library, Springer. (Indexed by SCOPUS, DBLP, zbMATH, SCImago).
10.	Anal Acharya, Devadatta Sinha: <i>A Web based Collaborative Learning System using Concept Maps: Architecture and Evaluation</i> . Handbook of Research on Natural Computing for Optimization Problems, IGI Global.

D. Papers presented in International Conferences

Serial	Paper Details
1.	Anisha Mitra, Aakash Decosta, Nilanjana Roychoudhury and Anal Acharya, <i>Students' performance prediction using Educational data mining</i> , Lecture Notes in Electrical Engineering, International Conference on IoT and its Applications, NIT Jamshedpur, 26-27 December, 2020, Springer(2020). (Indexed by SCOPUS, Springerlink)
2.	Anal Acharya, Devadatta Sinha : <i>A Concept Map Approach to Supporting Diagnostic and Remedial Learning Activities</i> , Advanced Computing, Networking and Informatics (ICACNI 2014), St. Thomas College of Engineering and Technology, Volume 1, pp. 565-575, 25-27 June, 2014, Springer International Publishing (2014). (Indexed by SCOPUS, Springerlink)
3.	Anal Acharya, Devadatta Sinha : <i>Construction of Automated Concept Map of Learning using Hashing Technique</i> , Frontiers in Intelligent Computing: Theory and Applications (FICTA

	2014) , Volume 1, pp. 567- 578, 14-15 November 2014, Springer International Publishing (2015). (Indexed by SCOPUS, Google Scholar, DBLP, Springerlink)
4.	Anal Acharya, Devadatta Sinha : <i>A Weighted Concept Map Approach to Generate Learning Guidance in Science Courses</i> , Information Systems Design and Intelligent Applications (INDIA 2015) , Kalyani University, Volume 2, pp. 143-152, 8-9 January, 2015, Springer International Publishing (2015). (Indexed by SCOPUS, Google Scholar, DBLP, Springerlink).
5.	Anal Acharya, Devadatta Sinha : <i>A Hierarchical Framework to evaluate the Learning Characteristics of M-Learning</i> , First International Science and Technology Congress 2014 (IEMCONGRESS 2014), Institute Of Engineering and Management (IEM) , pp. 58-66 , August 28-29, 2014, Elsevier Science and Technology Procedia.
6.	Anal Acharya, Devadatta Sinha : <i>Dimension reduction in distributed data mining using Wavelet Transforms</i> , Second International Conference on Computing and Systems (ICCS 2013), Burdwan University, pp. 214-217, September 21-22, 2013, McGraw Hill Education.
7.	Anal Acharya, Devadatta Sinha: <i>Towards Reduction of Data Flow in a Distributed Network using Principal Component Analysis</i> , Advancement of Computing in Engineering Research (ACER 2013), March 22-23, 2013.
8.	Soumen Mukherjee, Anal Acharya, <i>An Efficient Reconfigurable Architecture for Fractional Fourier Transforms</i> , International Conference in Signals, Systems and Automation (ICSSA-09) , CGET, Anand, 28-29 December, 2009, pp. 85-88, Universal Publishers.
9.	Soumen Mukherjee, Debabrata Datta, Anal Acharya, <i>Patenting Software: An Ethical Issue</i> , International Conference on Business Ethics and Corporate Social Responsibilities (ICBECSR'09), KLMR, Belgaum, 3-5 December 2009, pp. 276-280, Macmillan Publishers.
10.	Anal Acharya, Soumen Mukherjee, <i>Modeling Value Chain Analysis of Distance Education using UML</i> , International Conference on Modeling, Optimization and Computing (ICMOC 2010), NIT Durgapur, October 28-30, 2010, American Institute Of Physics (AIP), AIP Conf. Proc. 1298, 658 (2010).

E. Invited Lectures

Serial	Lecture Details
1.	<i>Personalized Learning using Concept Maps</i> delivered in “AI Horizons: Empowering Teachers for the Future”, FDP organized by IQAC and Research Sub committee Naba Ballygange Mahavidyalaya 15-19 May, 2025.
2.	<i>Concept Maps generation and optimization for diagnosing student learning problems</i> delivered in 5 day FDP organized by IQAC and Research and development cell Prashanta Chandra Mohalanabis Mahavidyalaya 19-24 Febraury, 2025.
3.	<i>Generation of Concept Maps using AI Techniques</i> delivered in “Artificial Intelligence and Digital Content Creation”, UGC sponsored seminar organized by EMMRC, 23rd August, 2024, St. Xavier’s College (Autonomous), Kolkata.
4.	<i>Use of Concept Maps in Collaborative Learning</i> delivered in Faculty Development Program “Recent Applications of Fuzzy Logic and Evolutionary Algorithms” on 26 th June, 2024, RCCIIT, Kolkata.
5.	<i>Applications of Artificial Intelligence in Education</i> delivered on the occasion of 75 th Anniversary, , 8 th January, 2024, Dumdum Shree Aurobindo Vidya Mandir, Kolkata.
6.	<i>Role of Digital Education in Sustainable Education</i> delivered on 17 th March, 2023, RCCIIT, Kolkata.
7.	<i>Use of Artificial Intelligence in Digital Education</i> delivered in “Data Mining and Learning Analytics in Educational Research”, 28 th June, 2022, organized by Department of Education, St. Xavier’s College (Autonomous), Kolkata.
8.	<i>Use of Artificial Intelligence in Education</i> delivered on 22 nd October, 2020 as resource person in Tech Fest of Kristu Jayanti College, Bangalore.

9.	<i>Concept Map Generation and Implementation in Personalized Environment</i> , delivered in “Impact of Digital Pedagogy in Technical Education in Covid and Post Covid Situation”, 22 nd July,2020, co-organized by MAKAUT and RCCIIT, Kolkata.
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F. Papers in Aviskar : A Xaverian Journal of Research

Serial	Paper Details
1.	Anal Acharya, Devadatta Sinha, <i>A Comparative Study of Personalized and Collaborative Concept Map based Web Learning Systems</i> , Volume X, 2018.
2.	Kaustuvi Basu, Ayan Roy, Anal Acharya : <i>Dimension Reduction of Educational Data Using Principal Component Analysis</i> , Volume VII, January,2015.
3.	Soumalik Roy, Kaushik Mitra, Prity Gupta, Anal Acharya : <i>An Obstacle Avoidance Algorithm using Fuzzy Neural Network</i> , Volume VI, January,2014.
4.	Sumona Sil, Madhurima Bose, Sayanti Chakraborty, Anal Acharya : <i>A New Approach to e-mail Cleaning</i> , Volume V, January,2013.

G. Papers presented in National Conferences

Serial	Paper Details
1.	Anal Acharya, Debabrata Datta, Soumen Mukherjee : <i>A Study on Use of ICT in Indian Education</i> " ICT in Higher Education-Opportunities and Challenges in the 21st Century, St.Xavier's College, Kolkata (Autonomous), 28th March, 2012 pp. 18-23.
2.	Anal Acharya Soumen Mukherjee : <i>Designing Fractional Fourier Transforms using Systolic Arrays</i> , National Conference on Emerging Trends in Computer Science and Information Technology (ETCSIC) -2010, K K Wagh Institute of Engineering Education and Research , Nasik, 29-30th January 2010, pp. 163-166.
3.	Soumen Mukherjee, Anal Acharya and Moumita Ghosal, <i>An Object Based Design & Implementation of Data Cleaning</i> , National Seminar on Data Mining & Decision Support, Vidyasagar University, 4-5 th March 2010, pp. 32-37.

H. Seminars/Workshops attended

Serial	Seminars/Workshop Details
1.	One day Workshop on “Matlab and Simulink” organized by <i>Department of Computer Science</i> in association with <i>Elmax Projects and Services</i> , held in St. Xavier’s College, Kolkata on 18 th December, 2015.

2.	One day Workshop on “Linux Administration and Virtualization” organized by <i>Department of Computer Science</i> , held in St. Xavier’s College, Kolkata on 22 nd December, 2014.
3.	One day Workshop on “Information Retrieval” organized by <i>Department of Computer Science</i> in association with <i>Information Retrieval Society of India</i> , held in St. Xavier’s College, Kolkata on 27 th March, 2011.
4.	One day Workshop on “MATLAB and Simulink Toolboxes” organized by <i>Department of Computer Science</i> in association with <i>Computer Society of India Kolkata Chapter</i> , held in St. Xavier’s College, Kolkata on 2 nd October, 2010.
5.	One day Seminar on “Modeling and Simulation Techniques for Computational Problems using MATLAB” organized by <i>Department of Computer Science</i> in association with <i>Computer Society of India Kolkata Chapter</i> , held in St. Xavier’s College, Kolkata on 1 st October, 2010.
6.	One day Seminar on “Data Mining and Data Warehousing” organized by <i>Department of Computer Science</i> held in St. Xavier’s College, Kolkata on 31 st October, 2009.
7.	Workshop on “Oracle 9i fundamentals & introduction to DBA 1” organized by <i>Oracle University</i> held in Bangalore, 22-28 th November, 2008.
8.	Workshop on “Technology development in Indian Languages” organized by <i>Indian Statistical Institute</i> held in Kolkata, 19-23 th March, 2001.