Chandra Sekhara Rao Annavarapu

Associate Professor - IIT(ISM), Dhanbad

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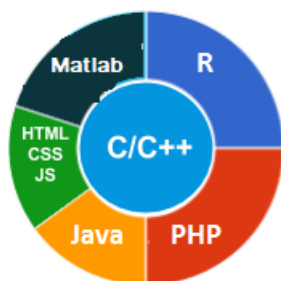0000-0002-1239-9843

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OS Preference
GNU/Linux ★★★★☆
MAC ★★★★☆
Unix ★★☆☆☆
Windows ★★☆☆☆

Programming

Experience

03/23 - Till date	**Associate Professor**	Indian Institute of Technology(ISM), Dhanbad
09/10 - 03/23	**Assistant Professor**	Indian Institute of Technology(ISM), Dhanbad
12/07 - 08/10	**Teaching Assistant**	National Institute of Technology, Warangal
11/06 - 12/07	**Assistant Professor**	G.I.T.A.M University, Vizag
07/05 - 10/06	**Assitant Professor**	Vardhaman College of Engineering, Shamshabad

Education

2017	**Doctor of Philosophy (PhD)**	Indian Institute of Technology, Dhanbad.
	Department of Computer Science and Engineering	
2005	**Master of Technology**	Andhra University, Vizag.
	Specialization is Information Technology with distinction	
2002	**Bachelor of Technology**	Koneru Lakshmaih College of Engineering, Guntur

R&D Projects

- Major project funded by CSIR entitled "Design of Machine learning techniques for specialized Biological online Database mining".
- Minor project funded by MHRD under TEQIP-II entitled "Bioinformatic tool and mathematical models for analysis of Ebola virus.".
- A Two-week FDP on Sensor Networks, Internet of Things,ICPS, DST,2019-2020 Session.

Consultancy

- Blast design optimization for controlled deep hole blasting at different patches of Selected Dhori Opencast Mines (SDOCM) using soft skills.Central Coal field Ltd(CCL)-(Project -ongoing)

List of papers published in Journals

1. M Karri,**CSR Annavarapu**,U R Acharya,"Skin lesion segmentation using two-phase crosss-domain transfer learning framework",*Computer methods and programs in Biomedicine,23* (2023,SCI Impact factor :**7.027**)
2. A Jain,**ACS Rao**,P K Jain, Y C Hu,"optimized levy flight model for heart disease prediction using CNN framework in big data",*Expert Systems with Applications,119859,*(2023),(2023,S Impact factor :**8.665**)

3. M Wankhade,**CSR Annavarapu**, A Abraham,"MAPA BiLSTM-BERT:multi-aspects position aware attention for aspect level sentiment analysis",*The Journal of Supercomputing*,(2023),(1-26),(2023,Impact factor :**2.557**),

4. P K Donta, S N Srirama, T Amgoth, **CSR Annavarapu**,"iCoCoA:intelligent congestion control algorithm for CoAP using deep reinforcement learning",*Journal of Ambient intelligence and Humanized Computing*,(2023),(1-16)

5. A Banerjee, SCK Jagupilla, S Pasupuleti, **CSR Annavarapu**,"Alternative relationships to enhance the applicability of nonlinear filtration models in porous media",*Acta Geophysica*,(2022),(1-13),(2022,impact factor :**2.293**)

6. E Jangam,**CSR Annavarapu**,AAD Barreto,"a multiclass classification framework for disease screening and disease diagnosis of covid-19 from chest x-ray images",*Mutimedia tools and applications*,(2022),(1-35),(2022,impact factor :**2.577**)

7. M Wankhade, **ACS Rao**,"Bidirectional LSTM Attention Mechanism for Sentiment Classification",*2022 2nd Asian Conference on innovation in Technology (ASIANCON)*,(2022),(1-6)

8. MeghanaKarri, **Annavarapu Chandra Sekhara Rao**, "A Real-time Embedded System to Detect QRS-complex and Arrhythmia Classification using LSTM through Hybridized features", *Expert Systems with Applications, 119221*, (2022), (2022,SCI Impact Factor: **8.67**)

9. Ebenezer Jangam, and **Annavarapu Chandra Sekhara Rao**, AAD Barreto "A multiclass classification framework for disease screening and disease diagnosis of COVID-19 from chest X-ray images", *Multimedia Tools and Applications*, (In Press) (2022), (2022,SCI Impact Factor: **3.16)**

10. Mayur Wankhade,textbfAnnavarapu Chandra Sekhara Rao,"Opinion analysis and aspect understanding during covid-19 pandemic using BERT-Bi-LSTM ensemble method", *Scientific Reports*, (12(1),1-15) (2022), (SCI Impact Factor: **4.996**)

11. M K Verma, Mayur Wankhade,textbfAnnavarapu Chandra Sekhara Rao,"CBVoSD: context based vectors over sentiment domain ensemble model for review classification", *The Journal of Supercomputing*, (1-37) (2022), (SCI Impact Factor: **2.6**)

12. MeghanaKarri, **Annavarapu Chandra Sekhara Rao**, U RajendraAcharya "SGC-ARANet: scale-wise global contextual axile reverse attention network for automatic brain tumor segmentation", *Applied Intelligence*, 1-17, (Nov 2022), (2022,SCI Impact Factor: **5.09**)

13. MeghanaKarri, **Annavarapu Chandra Sekhara Rao**, U RajendraAcharya "Explainable multi-module semantic guided attention based network for medical image segmentation", *Computers in Biology and Medicine*, (151, 106231) (2022), (2022,SCI Impact Factor: **6.70**)

14. MeghanaKarri, **Annavarapu Chandra Sekhara Rao**, Saurav Mallik, Zhongming Zhao U RajendraAcharya "Multi-class nucleus detection and classification using deep convolutional neural network with enhanced high dimensional dissimilarity translation model on cervical cells", *Biocybernetics and Biomedical Engineering*, (Available online) (2022), (2022,SCI Impact Factor: **5.70**)

15. Meghana Karri; **Annavarapu Chandra Sekhara Rao**; Kishore Kumar Pedapenki, "A Real-Time Cardiac Arrhythmia Classification using Hybrid Combination of Delta Modulation, 1D-CNN and Blended LSTM", *Neural Processing Letters*, (Available online) (2022), (2022,SCI Impact Factor: **2.908**)

16. Arushi Jain, **Annavarapu Chandra Sekhara Rao**, Praphula Kumar Jain Ajith Abraham ,"Multi-type skin diseases Classification using OP-DNN based feature extraction approach", *Multimedia Tools and Applications*, (Available online) (2021), (2021,SCI Impact Factor: **2.757**)

17. Mayur Wankhade,textbfAnnavarapu Chandra Sekhara Rao,"A Survey on Sentiment Analysis Methods, Applications, and Challenges", *Artificial Intelligence Review*, (Available online) (2022), (2021,SCI Impact Factor: **8.139**)

18. D. Praveen Kumar, Tarachand Amgoth, **Annavarapu Chandra Sekhara Rao**,"Delay-aware Data Fusion in Duty-Cycled Wireless Sensor Networks: A Q-learning Approach",

Sustainable Computing: Informatics and Systems, (Available online) (2021), (2021,SCI Impact Factor: **4.028**)

19. Abdul Wahid and **A.C.S Rao**."RDOF: An outlier detection algorithm based on relative density" in *Expert Systems* ,(Available online) (2021), (2021,SCI Impact Factor: **2.587**)

20. Bala Gangadhara Gutam, Praveen Kumar Donta,**Annavarapu Chandra Sekhara Rao**, Yu-Chen Hu,"Optimal Rendezvous Points Selection and Mobile Sink Trajectory Construction for Data Collection in WSNs", *Journal of Ambient Intelligence and Humanized Computing*, (Available online) (2021), (2021,SCI Impact Factor: **7.104**)

21. Praveen Kumar Donta, Satsh Narayana Srirama, Tarachand Amgoth, and **Annavarapu Chandra Sekhara Rao**,"Survey on recent advances in IoT application layer protocols and machine learning scope for research directions", *Digital Communications and Networks*, (Available online) (2021), (2021,SCI Impact Factor: **6.797**)

22. Mayur Wankhade,**Annavarapu Chandra Sekhara Rao**,and Mukul Kirti Verma ,"CB-VoSD: context based vectors over sentiment domain ensemble model for review classification", *The Journal of Supercomputing* , (Available online) (2021), (2021,SCI Impact Factor: **2.6**

23. Ebenezer Jangam, and **Annavarapu Chandra Sekhara Rao**,"A stacked ensemble for the detection of COVID-19 with high recall and accuracy", *Computers in Biology and Medicine*, (In Press) (2021), (2021,SCI Impact Factor: **3.434)**

24. Purushottam Agrawal , Alok Sinha, Satish Kumar, Ankit Agarwal , Ashes Banerjee, Vasanta Govind Kumar Villuri, **Annavarapu Chandra Sekhara Rao**, Rajesh Dwivedi , Vijaya Vardhan Reddy Dera, Jitendra Sinha and Srinivas Pasupuleti ,"Exploring Artificial Intelligence Techniques for Groundwater Quality Assessment", *Water Journal 2021, 13, 1172, PP: 1-27*, (2021,SCI Impact Factor: **2.544)**

25. Samson Anosh Babu P, and **Annavarapu Chandra Sekhara Rao**,"A NOVEL METHOD FOR PROTEIN SUBCELLULAR LOCALIZATION PREDICTION USING DEEP NEURAL NETWORK", *Neural Network World*, Vol; 31, PP: 29-45 (2021), (2021,SCI Impact Factor: **0.635)**

26. Balaji T K, **Annavarapu Chandra Sekhara Rao**, and Annushree Bablani,"Machine learning algorithms for social media analysis: A survey", *Computer Science Review*, Vol; 40, PP: 1-32 (2021), (2021,SCI Impact Factor: **7.707)**

27. Samson Anosh Babu P, **Annavarapu Chandra Sekhara Rao**, and Dara Suresh,"Selection Approach for High Dimensional Microarray Data", *Chemometrics and Intelligent Laboratory Systems*, Vol; 213, PP: 1-17 (2021), (2021,SCI Impact Factor: **2.895)**

28. Ebenezer Jangam, Aaron Antonio Dias Barreto, and **Annavarapu Chandra Sekhara Rao**,"Automatic Detection of COVID-19 from Chest CT Scan and Chest X-Ray Images using Deep Learning, Transfer Learning and Stacking", *Applied Intelligence*, Available Online (2021), (2021,SCI Impact Factor: **5.08)**

29. Samson Anosh Babu P, and **Annavarapu Chandra Sekhara Rao**,"Deep learning-based improved snapshot ensemble technique for COVID-19 chest X-ray classification", *Applied Intelligence*, Vol; 51, PP: 3104-3120 (2021),(2021), (2021,SCI Impact Factor: **5.08)**

30. D. Praveen Kumar, Tarachand Amgoth, **Annavarapu Chandra Sekhara Rao**,"An Extended ACO-based Mobile sink Path determination for Wireless Sensor Networks", *Journal of Ambient Intelligence and Humanized Computing*, (Available online) (2020), (2019,SCI Impact Factor: **4.594**)

31. Abdul Wahid and **A.C.S Rao**."ODRA: An outlier detetion algorithm for high dimensional data based on relevant attribute analysis" in *Cluster Computing* **(vol 24. pp 569-585, 2020**, (2019,SCI Impact Factor: **3.458**)

32. Abdul Wahid and **A.C.S Rao**."NaNOD: A Natural Neighbor based Outlier Detection Algorithm" in *Neural Computing and Applications* **(vol 33. pp2107-2123, 2020**.(2019,SCI Impact Factor: **4.774**)

33. Praveen Kumar D., Tarachand Amgoth, **Annavarapu Chandra Sekhara Rao**, "Data Collection and Path Selection Strategies for 3D Wireless Sensor Networks", *IEEE*

Sensors Journal (**vol 20. pp2224-2233, 2019**),2019,SCI Impact Factor: **3.073**)

34. Abdul Wahid and **A.C.S. Rao**,"RKDOS: A Relative Kernel Density-based Outlier Score", *IETE Technical Review, T and F*, **(vol 37(5). pp441-452, 2020** (2018,SCI Impact Factor: **1.618**)

35. D. Praveen Kumar, Tarachand Amgoth, **Annavarapu Chandra Sekhara Rao**,"Machine learning algorithms for wireless sensor networks: A survey", *Information Fusion, Elsevier*, vol. 49, pp. 1-25, Sep 2019. (2018,SCI Impact Factor: **10.713**)

36. Amit Chawla, Srinivas Pasupuleti, Sowmiya Chawla, **A. C. S. Rao**, Kripamoy Sarkar, Rajesh Dwivedi, "Landslide Susceptibility Zonation Mapping: A Case Study from Darjeeling District, Eastern Himalayas, India", *Journal of the Indian Society of Remote Sensing*, vol 47, Issue 3, pp 497–511, Mar 2019. (2018, SCI Impact Factor: **0.869**)

37. Chawla, A., Chawla, S., Pasupuleti, S., **A. C. S. Rao**, Sarkar, K., & Dwivedi, R., "Landslide Susceptibility Mapping in Darjeeling Himalayas, India," , *Advances in Civil Engineering*, Hindawi, vol. 2018, Article ID 6416492, 17 pages, 2018. (2018, SCI Impact Factor: **1.104**)

38. D. Praveen Kumar, Tarachand Amgoth, **Annavarapu Chandra Sekhara Rao**, "ACO-based mobile sink path determination for wireless sensor networks under non-uniform data constraints", *Applied Soft Computing*, vol. 69, pp. 528-540, 2018. (2018, SCI Impact Factor: **4.783**)

39. Suresh Dara, Haider Banka, **A C S rao**, "A Rough Based Hybrid Binary PSO Algorithm for Flat Feature Selection and Classification in Gene Expression Data", *Annals of Data Science (Springer)*, vol.4, issue. 3, pp. 341-360, 2017.

40. **A C S Rao**, Suresh Dara, Haider Banka, "Cancer Micro array data Feature selection using multi-objective binary particle swarm optimization" *EXCLI Journal*, vol. 15, pp. 462-463, 2016. (2018, SCI Impact Factor: **2.112**)

41. Ebenezer Jangam, **A C S Rao**,"Public datasets and Techniques for Segmentation of Anatomical structures from Chest X-rays: Comparitive study, Current trends and Future directions", Communications in Computer and Information Science-Springer, Vol 1036.(SCOPUS)

42. Ebenezer Jangam, **A C S Rao**,"segmentation from Chest X-rays using Fuzzy C means and Level Set Algorithm", Communications in Computer and Information Science-Springer, Vol 1036.(SCOPUS)

43. Ebenezer Jangam, **A C S Rao**,"Segmentation of Lungs from Chest X-ray using Euler number-based thresholding, Morphological operators and Greedy snakes", International Journal of Recent Technology and Engineering,Volume;7, pp. 114-117 (SCOPUS)

List of Conference Papers

1. Praveen Kumar Donta, Tarachand Amgoth, **Chandra Sekhara Rao Annavarapu**, "Congestion-aware Data Acquisition with Q-learning for Wireless Sensor Networks", 2020 International IOT, Electronics and Mechatronics (IEMTRONICS 2020) Conference at Vancouver, Canada, IEEE , 2020.

2. A. Wahid, and A.C.S Rao: A KNN-kernel Density-based Local Outlier Mining Algorithm, IEEE International Joint Conference on Neural Networks (IJCNN) 2020, Glasgow, United Kingdom, July 19 - 24, 2020. (Core Ranking: A).

3. Rathan kumar.V, Muni sankar N., **Annavarapu Chandra Sekhara Rao**, and Eswar varma, "Deep learning based approach for classification and Detection of papaya leaf diseases", ISDA 2018.

4. Wahid, A., **Rao, A.C.S.** and Deb, K., 2018, December. A Relative Kernel-density Based Outlier Detection Algorithm. In 2018 12th International Conference on Software, Knowledge, Information Management & Applications (SKIMA) (pp. 1-7).3-5 Dec 2018, Phnom Penh, Cambodia. (**Best Paper Award**)

5. Samsonbabu P, Abhilash mohapatra, **Rao, A.C.S.**, A Novel method for Next Gener-

ation Sequencing data Analysis using PLSA topic modeling Technique, ICACCP,25-28th February, 2019,SMIT, Sikkim, India (**Best paper Award**)

6. Aradhye, G., Rao, **A.C.S. Rao** and Mohammed, M.M., 2019. A Novel Hybrid Approach for Time Series Data Forecasting Using Moving Average Filter and ARIMA-SVM. In Emerging Technologies in Data Mining and Information Security (pp. 369-381).Feb 23, 2018 - Feb 25, 2018, Kolkata, India **(Best Paper Award)**.

7. Kundan kumar , **Annavarapu Chandra sekhara rao** , "Breast Cancer Classification of Image using Convolutional Neural Network" , IEEE International Conference on Recent Advances in Information Technology, 2017.DOI:10.1109/RAIT.2018.8389034

8. Abdul Wahid, **A.C.S Rao** and Dipti Goel," Server Communication Reduction for GPS Based Floating Car Data Traffic Congestion Detection Method", (2017), Advances in Intelligent Systems and Computing, ISSN 2194-5357.

9. **A C S Rao**, DVLN Somayajulu, and H Banka "Modified Correlation based Technique in micro array data analysis for searching deferentially expressed genes" International Conference on *Recent Advances in Information Technology* (RAIT-2012) Vol.2 pp 84-88, 2012.

10. **A Chandra sekhara rao**, D.V.L.N.somayajulu, Haider Banka, Sawrav Roy, "Feature Binding Technique for Integration of Biological Databases with Optimized Search and Retrieve", 2nd international conference *ICCCS2012*, Procedia Technology, Vol. 6, Pp 622-629, 2012.

11. **A Chandra sekhara rao**, D.V.L.N.somayajulu,Haider Banka, Rohit Chaturvedi, "Outlier Detection in Microarray Data Using Hybrid Evolutionary Algorithm", 2nd international conference *ICCCS2012*, Vol. 6, Pp 291-298,2012.

12. **A Chandra sekhara rao**, A Aditya avinash, D.V.L.N.somayajulu, Haider Banka, "A New Parallel Searching Model for Integration of Biological Databases", 6th International Conference on *Advanced Computing and Communication Technologies* (ICACCT-2012), Vol1 Pp 137-141, 2012.

Awards/ Honours

1. Invited as **Visiting Professor** at Laboratory of Technologies of Information and Communication, Electrial Engineering (LaTICE), National High School of Enginners of Tunis (ENSIT) University of Tunis, **Tunisia July 4 th 2019 to July 18 th , 2019**.

2. **Best Paper Award** at Second International Conference on Advanced Computational and Communication Paradigms (ICACCP), Gangtok, India 2019 for the title"A novel method for next-generation sequence data analysis using PLSA topic modeling technique", doi: 10.1109/ICACCP.2019.8882949.

3. **Best Paper Award** at 12th International Conference on Software, Knowledge, Information Management Applications (SKIMA) , Phnom Penh, **Cambodia. 2018**, for the title"A Relative Kernel-density Based Outlier Detection Algorithm".

4. **Best Paper Award** at IEMIS, Publication: Springer :Advances in Intelligent Systems and Computing (AISC) Series, **2018,India** for the title"A Novel Hybrid Approach for Time Series Data Forecasting using Moving Average Filter and ARIMA-SVM,".

Patent

1. Reddi China Appala Naidu, **ANNAVARAPU CHANDRA SEKHARA RAO**,KARRI MEGHANA, SRUJAN ATLURI "A Modern approach of the protecting poultry boilers from heavy heat and automation of a layer form in different type of climatic conditions.", Official Journal of the patent office(Issue: 13/2019), 29th March 2019(published).

2. KARRI MEGHANA, Reddi China Appala Naidu, **ANNAVARAPU CHANDRA SEKHARA RAO**„ Mayur Kishor Wankhade "SMART TRAFFIC CONTROL SYSTEM USING MACHINE LEARNING", Official Journal of the patent office,13th March 2020(published).

Books Chapters

1. **A C S Rao**, Suresh Dara, Haider Banka, "An Improved Quantum Inspired Immune Clone Optimization Algorithm", *LNCS* Vol. 9873, pp. 84-91, 2016.
2. Abdul Wahid and **A.C.S Rao**, "Distance-Based Outlier Detection for High Dimensional Data using Particle Swarm Optimization Technique", (2017), Lecture Notes in Networks and Systems, ISSN: 2367-3370.

Books published

1. Rathan Kumar V., **Chandra Sekhara Rao Annavarapu**, and Sreenivasula Reddy T. "A Developer's Guide to DBMS", KDP Amazon, , USA, June 2018. (ISBN: 978-1983033063)
2. Balaji T. K, Satya Rajendra Singh R, and **Annavarapu Chandra Sekhara Rao**, "Introduction to Big Data", Amazon Kindle Publishing House, , USA, Nov 2017. (ISBN: 978-1973251934)

Events Organized

- Short term course on "Data mining and its applications" during 27th Feb 2017 to 3rd Mar 2017.
- Two Weeks Sponsored DST FDP course on "Sensor Networks and IoTs" June 2019.
- Faculty advisor for HackFest 36 hours coding contest in 2016, 2017 and 2018,2019.
- Departmental In-charge for CONCETTO (Techfest) in 2014, 2015, 2016, and 2017.
- **Convener CONCETTO 2019**(All india level Techfest)

Guest Lectures Delivered

- **Key note speech** in National Conference on communication and computing (**NC3-2020**) on 29th july 2020.
- Many Guest Lectures delivered in various FDP, Short term courses,webinar, etc related to Bioinformatics, soft computing, evolutionary algorithms,etc.,

Projects

- Ph.D Guided:Full time -03, prat time -01
- Ph.D Guiding : Full time -02
- Ph.D Guiding (Part time) - 02
- Ph. D Thesis Evaluated - 07
- M.Tech (Guiding) - 08, M.Tech (Guided) - 30
- B. Tech (Guiding) - 10, B. Tech (Guided) - 62

Additional Responsibilities

- Worked as Guest editor in the special issue of Mobile Information Systems, entitled "Computational photography based on deep learning for mobile intelligent system".
- Worked as Sports Counsellor for the Year 2021-22
- Working as institute level Coordinator for alumni association for the session 2021-22
- Worked as DUGC Member from 2020 to 2022
- Working as DPGC Member since 2022
- worked as DFSC member 2019, 2020, working as DFSC Member 2021-22, 2022-23.
- Worked as Chief-Election-Officer for **Student Gymkhanna** since 2018 to Till date.

- Worked as a Chief warden for Jasper Hostel at IIT(ISM) of capacity 2430 students with in-charge/Head of 8 wardens since 2018-19, 2019-20.
- Worked as nominated (Chief Warden)a Senate Member IIT(ISM) for 2018-19, 2019-20.
- Working as Reviewer for IEEE/ACM Transactions on Computational Biology and Bioinformatics.
- Worked as JRF coordinator for department of CSE at IIT(ISM) since 2018,2019.
- Worked as session chair in RAIT-2012,2014, 2016 and 2018 Conferences.
- Worked as advisory board member for Conferences.
- Worked as publication co-chair and finance co-chair in RAIT-2012,2014, 2016 and 2018.
- Worked as reviewer in the field of Bioinformatics, evolutionary algorithms, and machine learning algorithms for IEEE and Springer Conferences.
- Worked as executive member for two Years Center for Societal Mission (CSM), IIT(ISM), Dhanbad in 2017, 2018.
- Working as Board of Courses and Study (BOCS) for B. Tech(CSE) and M. Tech(CSE) since 2010, three year executive M. Tech(CSE) since 2014 in IIT(ISM), Dhanbad.
- Working as mentor in ACM ICPC online contest since 2010.
- Working as executive member of centre for socital mission(CSM) at IIT(ISM).
- Conducted 4 skill development programs under CSM banner Trained more than 500 students.
- Worked as Warden in 2017-18.
- Worked as Software Lab In-charge from 2012 to 2020.
- Working as Bio-metric Attendance In-charge since 2013.
- Working as departmental purchase committee member since 2011.
- Working as departmental UPS In Charge from 2020.
- Working as departmental Server Room In Charge from 2020.
- Working as Faculty In-charge for 2nd year Dual degree CSE since 2013.
- Working as Faculty In-charge for final year B. Tech CSE since 2013.
- Working as General Secretory for SCOLOMIN club for the session 2018-19, 2019-20,2020-21, 2021-22 an official club for faculty and officers of IIT(ISM) Dhanbad.
- Worked as Tabulator form 2011 to 2016.
- Experience in providing computer laboratory facility to conduct GATE Examination in IIT(ISM), Dhanbad.
- Worked as micro observer in Assembly elections in Jharkhand, Dec 2014.
- Worked as micro observer in Lok shabha elections in Jharkhand, April 2014.
- Participated inter IIT tournament for staff at IIT Madras in 2017.
- Participated inter IIT tournament for staff at IIT Guwahati in 2018.
- Participated inter IIT tournament for staff at IIT Kharagpur in 2019.
- Participated inter IIT tournament for staff at IIT Delhi in 2022.
- Worked as officiating member in inter IIT tournament for student at IIT Bhubaneswar in 2019 and at IIT Delhi in 2022.

Membership

- IEEE
- International Association of Engineers (*IAENG*)
- International Society for Computational Biology (*ISCB*)
- The Society of Digital Information and Wireless Communications (*SDIWC*)
- Institute of Electronics, Information and Communication Engineers (*IEICE*).

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Annavarapu Chandra Sekhara Rao