



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506 015, Telangana, INDIA.

काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६ ०१५ तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

DEPARTMENT OF INFORMATION TECHNOLOGY

Department of Information Technology

Presents...

A Technical Magazine



Issue 12, August 2023

Final Year passed out batch (2022-23) of B. Tech students Group Photo



 **KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE**
Warangal – 506 015, Telangana, INDIA. (An *AUTONOMOUS INSTITUTE* under Kakatiya University, Warangal)
కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - 506 015.
KITSW

Editorial Board

1. Faculty

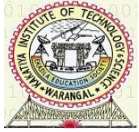
S. No.	Responsibility	Name of the Faculty	Designation
1.	Chief Editor	Dr. T. Senthil Murugan	Associated Professor & Head
2.	Faculty Editor	Sri T. Mahesh Kumar	Assistant Professor, Dept. of IT

2. Students

S. No.	Roll Number	Name of the Student
1.	B19IT007	PUARANAM YUVARAJ
2.	B19IT008	AILENI RUTHVIK REDDY
3.	B19IT014	MALLURU VYSHNAVI
4.	B19IT011	ANANTAPALLI S V S S RENUKA

CONTENTS

S. No	Description	Page No.
1	Principal Message	1
2	Head of the Department Message	2
3	Department Profile	3
4	Vision & Mission of the Department	4
5	Programme Outcomes (POs)	5
6	PEO and PSO	6
7	Teaching faculty, Non-Teaching & Supporting Staff list	7
8	Research Publications of faculty	8
9	Conferences attended by Faculty	10
10	Faculty Interaction with Outside World	12
11	Events conducted by the Department	13
12	Students Higher Education	15
13	Students Placement details	16
14	Students Internships	17
15	Students Publication	20
16	Student Contribution	21
17	Article by Students	23



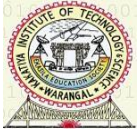
Kakatiya Institute of Technology & Science, Warangal
(An Autonomous Institute under Kakatiya University, Warangal.)
DEPARTMENT OF INFORMATION TECHNOLOGY



Dr. K. Ashoka Reddy
Principal

Message

It gives me immense pleasure to pen a few words as prologue to our in-house Technical Magazine exclusively meant for churning out the latent writing talent which bears immense potentiality of sharpening communication skills as part of overall personality development. I congratulate the editorial board of the Technical Magazine for their untiring efforts in collecting and compiling the data without which it would have not been possible to place this magazine in your hands. I, on behalf of KITSW family, wish you all the best for achieving greater success and scaling new heights in the future.



Kakatiya Institute of Technology & Science, Warangal
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DEPARTMENT OF INFORMATION TECHNOLOGY



Dr. T. Senthil Murugan
Head of the Department

Message

It gives me an immense pleasure to present twelve issue of BITWISE Magazine from Dept of IT. The past year was full of various activities by the students and faculty in academic, co curricular, extra-curricular as well as research & developments. We are proud of the accomplishments of our alumni for their achievements in academic, higher studies and placements in fastest-growing IT companies. Faculty members published research papers on complex issues in various fields of computer science and Information technology. It is our aim to educate and inform anyone who has an interest in latest technologies and upcoming research directions in the field of computers. Throughout the Magazine you will see articles on the varied aspects of technical as well as non-technical topics from students and faculty members.

We welcome your feedback and would like to hear what you think of the BITWISE Magazine.

Department Profile

The Department of Information Technology was established in the year 1999, Department offers a 4-year course of B.Tech. degree programme in the Information Technology, with an annual intake of 120 students. The intake was enhanced to 120 students in the 2020. The department is also offering M. Tech (Data Science) from the year 2020. The hallmark of IT Department is to develop technologically competent IT professionals in today's IT centered scenario. The strengths and facilities of the department are increasing year by year. Well qualified, experienced and committed faculty members are an asset to the Department. The Department has well equipped laboratories to cater the needs of the students. To expose the students to the current trends in the areas of Information Technology and allied ones, the Department conducts a National Level Students' Technical Symposium in every academic year and also the Department organizes several training programmes for both students and faculty members to get acquainted with the cutting-edge technologies emerging day-by-day. Students of IT Department have made remarkable achievements both in academics and sports as well. The Department has formal alliances with reputed IT-oriented organizations to facilitate student training, projects, internship and expert lectures.

VISION AND MISSION OF DEPARTMENT

VISION:

To become a Center of Excellence in the Information Technology discipline with effective teaching and strong research environment that makes our students globally competitive with strong ethical values and leadership abilities.

MISSION:

- To impart technical knowledge to the students to turn out proficient and well groomed engineers.
- Motivate students to improve skills by attending training programs and internships that leads to develop innovative projects in emerging technologies.
- To train our students for higher education, leadership in profession and adopt quality research.

Programme Outcomes (POs):

Engineering Graduates will be able to:

PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
PO4	Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO6	The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO12	Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



Kakatiya Institute of Technology & Science, Warangal

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DEPARTMENT OF INFORMATION TECHNOLOGY

Programme Educational Objectives of the Course:

- To provide students with a sound foundation in Information Technology theory and practices to analyze, formulate and solve engineering problems.
- To develop an ability to design algorithms, implement programs and deploy software.
- To develop Information Technology solutions with the changing needs of the society for the career-related activities.

Programme Specific Outcomes of the Course:

- Apply analytical and experimental problem-solving skills in the Information Technology discipline
- Use fundamental knowledge to investigate new and emerging technologies leading to innovations in the field of Information Technology.
- Begin immediate professional practice as an Information Technology Engineer.



Kakatiya Institute of Technology & Science, Warangal-15

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DEPARTMENT OF INFORMATION TECHNOLOGY

Teaching Faculty, Non-Teaching & Support Staff

TEACHING FACULTY

S. No.	Name of the faculty	Designation
1.	Dr. P. Kamakshi	Professor
2.	G. K. Shailaja	Associate Professor
3.	Dr. T. Senthil Murugan	Associate Professor & Head
4.	Dr. B. Kiran Kumar	Associate Professor
5.	A. Bhaskar	Associate Professor
6.	Dr. Y. Bhavani	Associate Professor
7.	P. Sudharshan Ray	Assistant Professor
8.	S. B. Swathi	Assistant Professor
9.	M. Kishore	Assistant Professor
10.	R. Gautam	Assistant Professor
11.	T. Mahesh Kumar	Assistant Professor
12.	Dr. K. Praveen Kumar	Assistant Professor
13.	Dr. K. Deepika	Assistant Professor
14.	K. Gautham Raju	Assistant Professor
15.	S. Sangeetha	Assistant Professor
16.	Sobiya Sabahat	Assistant Professor
17.	P. Sree Lakshmi	Assistant Professor
18.	N. Rajender	Assistant Professor
19.	N. Srinivas	Assistant Professor

NON-TEACHING & SUPPORT STAFF

S.No.	Name of the faculty	Designation
1.	M. Srilatha Devi	Programmer
2.	Ch. Devender	Programmer
3.	P. Sathish	Jr. Assistant
4.	K. Mahender	Attender

Research Publications of faculty:**Conference Proceedings**

1. Dr. P. Kamakshi, Dr. K. Deepika, Sruthi, "Analysis of Students' Fitness and Health using Data mining", 4th International conference on computer & computer & communication technologies (IC3T-2022) 29-30 July, 2022. Organized by the Department of Electronics and Communication Engineering. (ECE), Kakatiya Institute of Technology & Science Warangal, Telangana during 29-30 July, 2022. vol 606. Springer, Singapore. https://doi.org/10.1007/978-981-19-8563-8_39, https://link.springer.com/chapter/10.1007/978-981-19-8563-8_39. [Scopus]
2. Srinivas Nagineni," An Efficient and Robust Deep Learning Approach to Predict Air Pollution by Employing Long Short-Term Memory", Proceedings of the International Conference on Inventive Research in Computing Applications (ICIRCA 2022).
<https://ieeexplore.ieee.org/document/9985722>

Journals:

1. T. Senthil Murugan, A. Sarkar, "Analysis on dual algorithms for optimal cluster head selection in wireless sensor network," Evolutionary Intelligence, vol. 15, no. 2, pp. 1471-1485, 2022.
<https://doi.org/10.1007/s12065-020-00546-x>
2. Siripuri Divya, Y. Bhavani, Thota Mahesh Kumar, "A Survey on Genomic Dataset for Predicting the DNA Abnormalities Using ML", International Journal of Advanced Computer Science and Applications, Vol. 13, No. 5, 2022. June, 2022.
<https://dx.doi.org/10.14569/IJACSA.2022.0130537>
3. B. Kiran Kumar, Jayadev Gyani, Y. Bhavani, P. Ganesh Reddy, T. Nagasai Anjani Kumar," Centroid and Nearest Neighbor based Class Imbalance Reduction with Relevant Feature Selection using Ant Colony Optimization for Software Defect Prediction", Volume 22, IssueNo.10,October, 2022, pp. 1-10. <https://doi.org/10.22937/IJCSNS.2022.22.10.1>
4. B. Kiran Kumar, K. Sai Priyanka, T. Mahesh Kumar, "Class Imbalance Reduction and Centroid based Relevant Project Selection for Cross Project Defect Prediction", International Journal on Recent and Innovation Trends in Computing and Communication, Volume: 11 Issue: 6s, May, 2023, pp. 293-302. DOI: <https://doi.org/10.17762/ijritcc.v11i6s.6933>
5. S.B. Swathi, Yuvaraj Puranam, Rachana Vannala," Artificial Intelligence Involvement in Predicting the Heart Disease on Databases: A Survey", *Positif Journal*, Vol 22, Issue 8, ISSN No: 0048-4911, pp. 169-177. August 2022. <https://doi.org/10.37896/psj30.7/1238>.

6. S.B. Swathi," Heart Disease Prediction using various Machine Learning Techniques and Analysis of Techniques" *Positif Journal*, Vol 22, Issue 7, ISSN No: 0048-4911, pp. 507-514. July 2022.<https://doi.org/10.37896/psj30.7/1238>
7. S.B. Swathi, Rachana Vannala, Yuvaraj Puranam," Comparative Analysis of Data Decryption Techniques", *Positif Journal*, Vol 22, Issue 7, ISSN No: 0048-4911, pp. 575-581. July 2022 <https://doi.org/10.37896/psj30.7/1238>.
8. Dr. K. Deepika , Y. Sindhu Sai, G. Ruchitha," An Approach of Using Machine learning Ensemble models for Predicting Hypothyroid Disease", *Positif Journal*, ISSN No : 0048-4911, pp. 460-468. July 2022. <https://doi.org/10.37896/psj30.7/1238>
9. K. Amulya , Dr. K Deepika, Dr. P Kamakshi," An optimized hyper parameter-based CNN approach for predicting medicinal or non- medicinal leaves", *Advances in Engineering Software*. Volume 172 July 20, 2022.
- 10.R. Dineshkumar, M.Kalimuthu , K.Deepika , S.Gopalakrishnan," Engineering Education with Tool Based Technical Activity (TBTA)" , "Journal of Engineering Education Transformations, Volume 36 , No. 2 , October 2022 , DOI: [10.16920/jeeet/2022/v36i2/22166](https://doi.org/10.16920/jeeet/2022/v36i2/22166)
- 11.Gopampallikar Vinoda Reddy, Kongara Deepika, Lakshmanan Malliga, Duraivelu Hemanand, Chinnadurai Senthilkumar, Subburayalu Gopalakrishnan, and Yousef Farhaoui," "Human Action Recognition Using Difference of Gaussian and Difference of Wavelet" *BIG DATA MINING AND ANALYTICS*, ISSN 2096-0654 07/10 pp336 -346 Volume 6, Number 3, September 2023 DOI: 10.26599/BDMA.2022.9020040. <https://ieeexplore.ieee.org/document/10097655>
- 12.Deepika Kongara, G. Divya,"An Approach of Using Machine learning Ensemble models for Predicting Hypothyroid Disease" *Journal of Instrumentation Technology & Innovations*, ISSN: 2249-4731 (Online) ISSN: 2347-7261 (Print) Volume 12, Issue 3, 2022 DOI (Journal): 10.37591/JoITI. April 2023. <http://engineeringjournals.stmjournals.in/index.php/JoITI/index>
- 13.Dr. K. Deepika kongara, Shivani Krishnama," A Process of Penetration Testing Using Various Tools", *Mesopotamian Journal of Cybersecurity* ,VOL. 2023 (2023),ISSN 2958-6542. pp. 93-103,26-04-2023. <https://doi.org/10.58496/MJCS/2023/014>
- 14.Dr. Sridhar Manda, Dr. Venkateshwarlu Velde, Ms. Sree Lakshmi Potlapally, Dr. Arun Kumar, Dr. Sravan Kumar V, "Improving IoT Routing Performance in Multi Region Geocasting", *Computer Networks*, Volume 211, may 2022. <https://www.doi.org/journals/view/19>.
- 15.Swathy Vodithala, Vaishnavi Gudimalla, Y.Bhavani, Preethi Madadi, Mohammed Sharfuddin Waseem, "Recommendation of Algorithm for Efficient Retrieval of Songs from Musical Dataset", *International Journal on recent and Innovation Trends in Computing and Communication*, Vol. 11, No.5, April 2023, pp. 276-282.

Conferences attended by the faculty, for presenting research papers, during 2022-23:

S.No	Name of the Faculty	Details of conference where papers were presented	Venue/Organized by	Dates of the conference	Title of the paper presented, including page numbers
1.	Dr. B. KiranKumar	International Conference on Power, Control and Sustainable Energy Systems, July, 2022.	Department of Electrical Electronics Engineering, B.M.S. College of Engineering, Bengaluru in association with Aarhus University, Denmark	28th- 30th July 2022	Islanding Detection In Grid-Tied Solar Pv System Using AI Technique”
2.	Dr.B.KiranKumar	4th International Conference on Computer & Communication Technologies (IC3T) 2022. July, 2022	Department of Electronics and Communication Engineering (ECE),Kakatiya Institute of Technology & Science-Warangal, Telangana.	29-30 th july	Singular Value Decomposition And Rivest Shamir Adleman Algorithm Based Image Authentication Using Watermarking Technique
3.	Dr.B.KiranKumar	International Conference on Innovations in Engineering and Technology (ICIET -2022)	JNTUH	15-17 th september	Class Imbalance Reduction and Training Data Selection for Cross Project Defect Prediction
4	Dr.B.KiranKumar	International Conference on Mathematical Sciences and Emerging	Department of Mathematics, School of Science, GITAM (Deemed to be University),	9-11 th september	Centroid-based PF-SMOTE for Imbalanced data

		Applications in Technology (ICMSEAT-2022)	Hyderabad		
5	A.Bhaskar	International Conference on Artificial Intelligence and Data Science (ICAIDS)	Bengaluru, India	October 8-9, 2022 -	Fake News Identification using Pyramidal Network with Machine Learning Algorithms
6.	A. Bhaskar	13th International Conference on Advances in Communication, Network and Computing (CNC2022).	Bengaluru, India	July 29-30, 2022,	Mobile Health App - A tool for Health Services
7.	Dr. Y.Bhavani	International Conference on Power, Control and Sustainable Energy Systems, July, 2022.	Department of Electrical & Electronics Engineering, B.M.S. College of Engineering, Bengaluru in association with Aarhus University,	28th- 30th July 2022	Singular Value Decomposition And Rivest Shamir Adleman Algorithm Based Image Authentication Using Watermarking Technique
8.	Dr. P. Kamakshi	4th International conference on computer & computer & communication technologies (IC3T-2022) .	Department of Electronics and Communication Engineering. (ECE), Kakatiya Institute of Technology & Science Warangal, Telangana during 29-30 July, 2022	29-30 July, 2022	Analysis of Students' Fitness and Health using Data mining

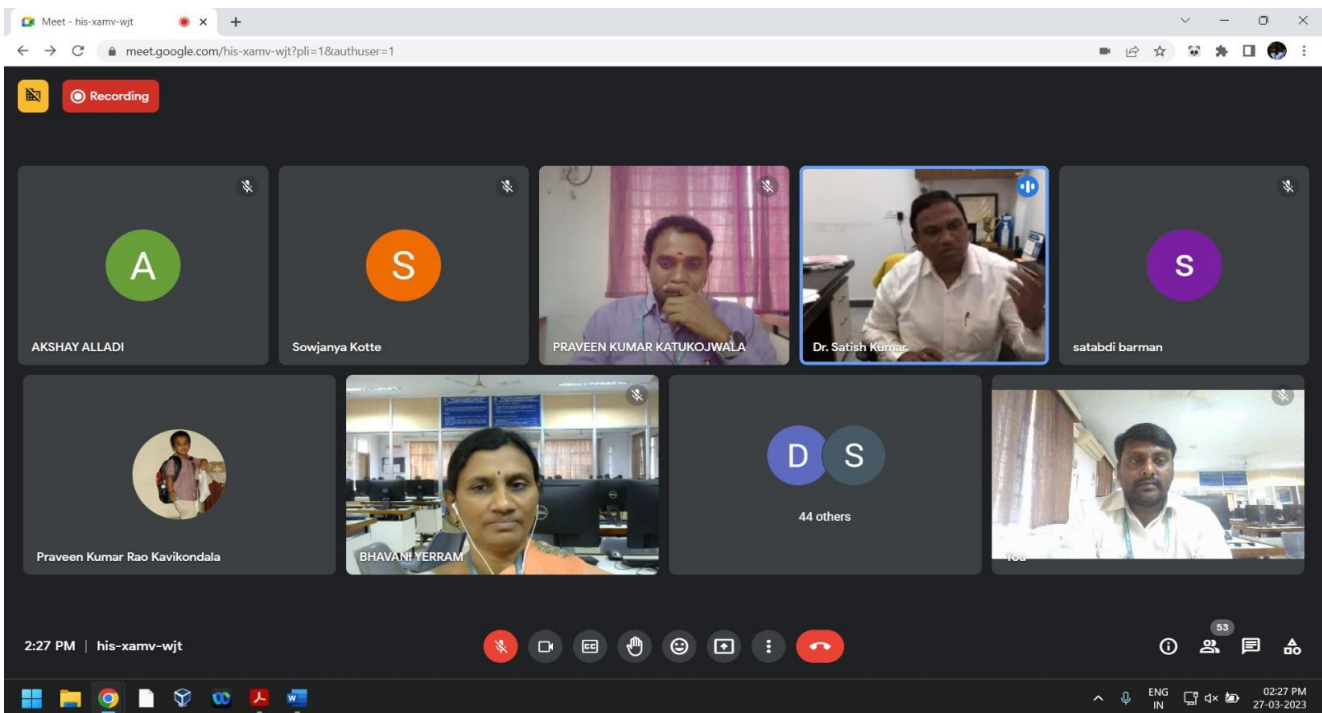
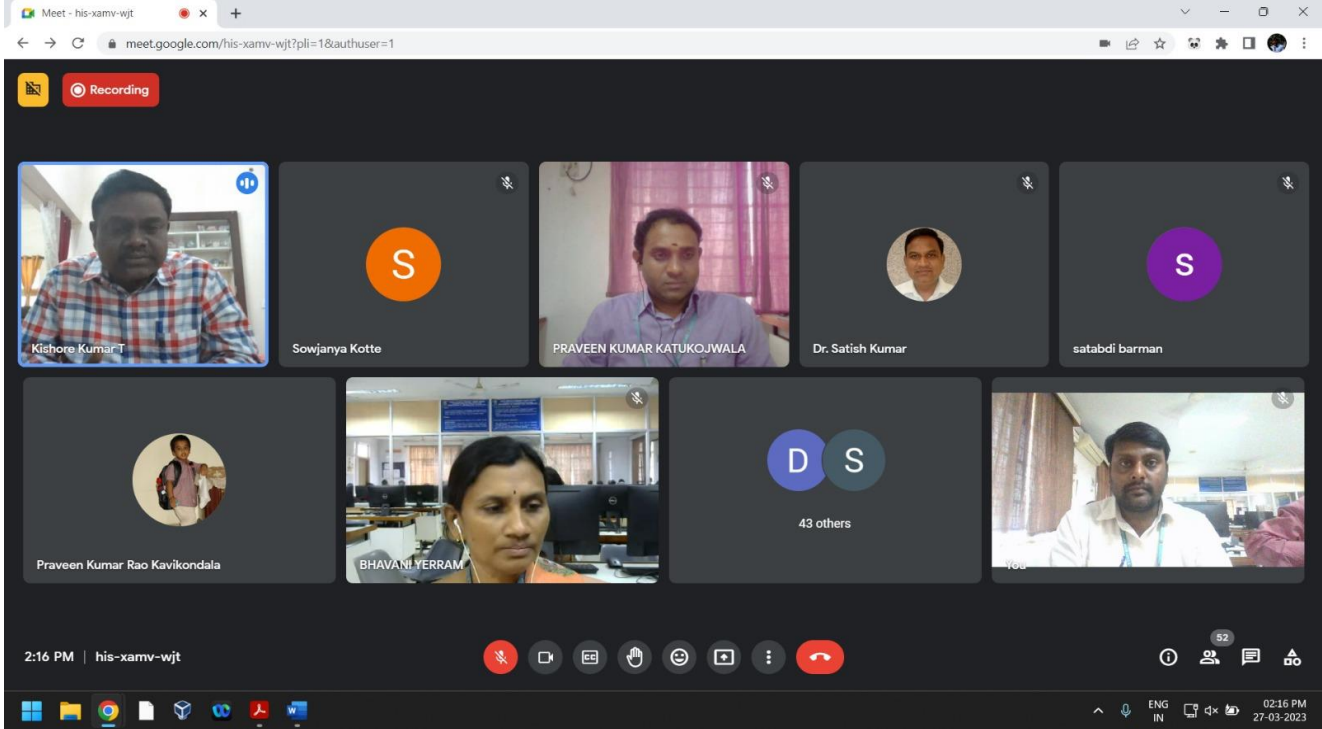
9.	Dr. K. Deepika	4th International conference on computer & communication technologies (IC3T-2022) .	Department of Electronics and Communication Engineering. (ECE), Kakatiya Institute of Technology & Science Warangal, Telangana during 29-30 July, 2022	29-30 July, 2022	Analysis of Students' Fitness and Health using Data mining
10	Dr. K. Deepika	International conference on Innovations in Engineering and Technology (ICIET-2022) September 15-17(2022). Organized by JNTUH.	JNTUH.	September 15-17(2022).	Speech emotion Recognition Usicognition tion Rnd Technology using MLP Classifier.

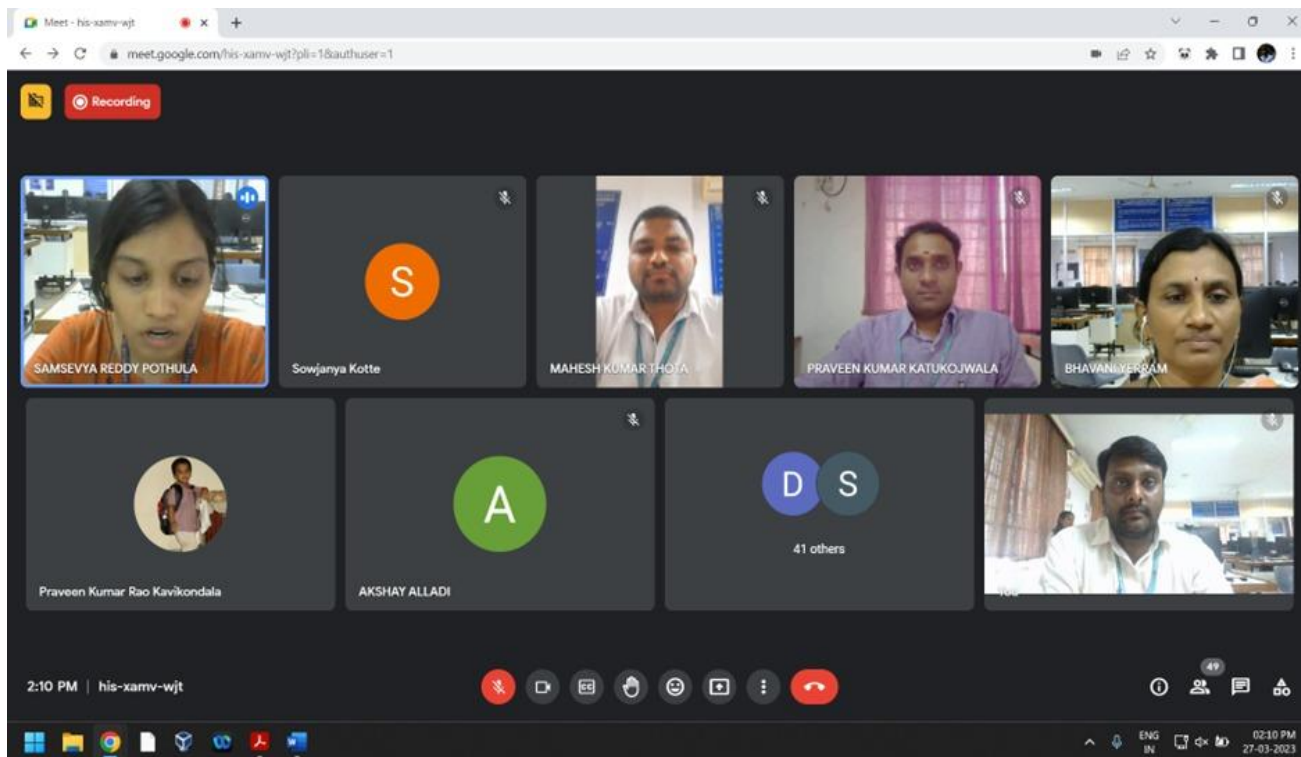
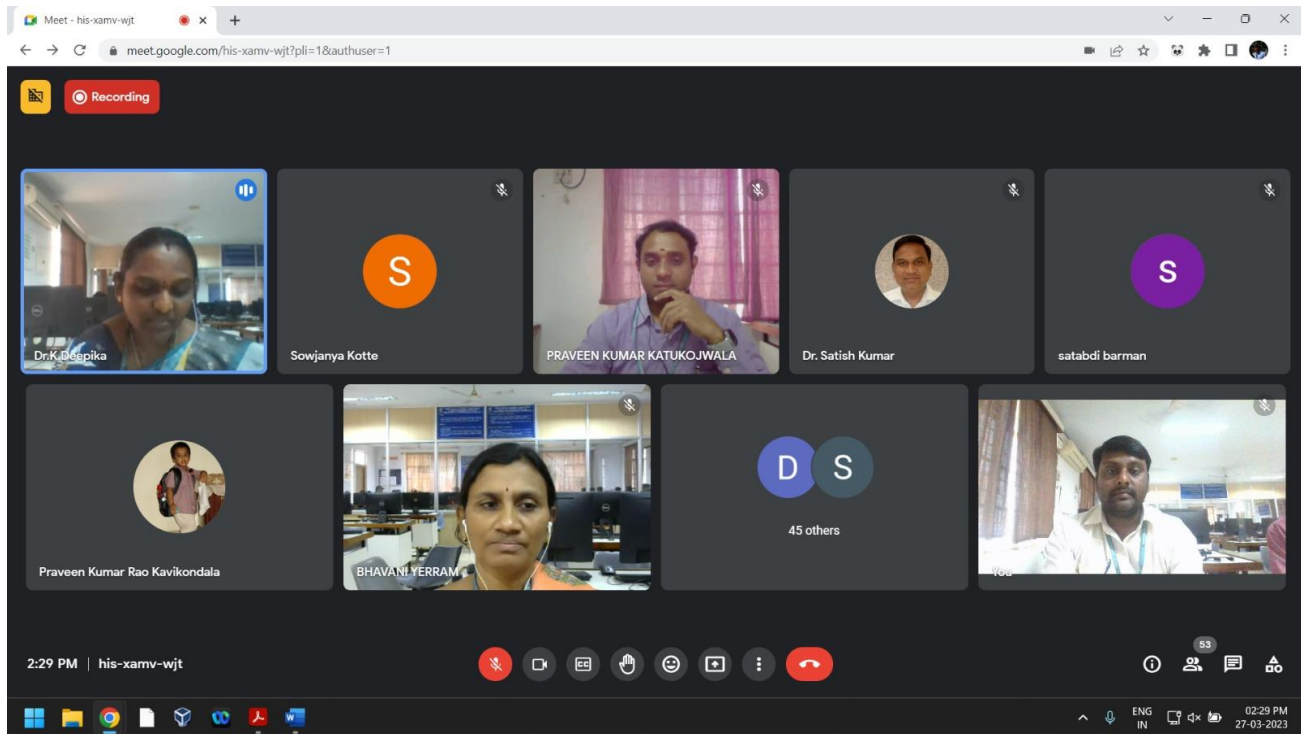
FACULTY INTERACTION WITH OUTSIDE WORLD

S. No	Name of the Faculty	STTP/FDP/workshop	Details@	Venue	Duration & Dates
1	T. Senthil Murugan	FDP	Programming in Java	NPTEL	Jan 23 - Apr 23
2	B. Kiran Kumar	Workshop	Java Full Stack	WIPRO	07.12.2022 23.12.2022
3	A. Bhaskar	Wipro	AI & ML	WIPRO	31.10.2022 04.11.2022
4	A. Bhaskar	Workshop	Java Full Stack	WIPRO	13.06.2022 24.06.2022
5	Dr. Y. Bhavani	FDP	Programing, Data structures and Algorithms using Python	NPTEL	July 2022 Sep 2022
6	Dr. Y. Bhavani	FDP	Introduction to Programming in C	NPTEL	January 2022 March 2023
7	S. B. Swathi	Refresher Course	Internet of Things	NPTEL	22.08.2022 05.09.2022
8	M. Kishore	FDP	Problem Solving Trough Programing in C	NPTEL	July 2022 Dec 2022
9	M. Kishore	FDP	Data Structures and Algorithms Using Java	NPTEL	July 2022 Dec 2022

Events Conducted by Department:

S. No.	Title of the Event	Type of the Event	Coordinators	Date of event
1	Emerging Technologies in IoT, AI & ML and Image Processing	Faculty Development Programme	Dr. T. Senthil Murugan, Associate Professor & Head Department of IT	27th March, 2023 to 5th April 2023





Department of Information Technology has organized two-week Faculty Development Program on "Emerging Technologies in IoT, AI & ML and Image Processing" during 27.03.2020 to 05.04.2020 in association with the E&ICT - NIT, Warangal. More than 50 faculty members were registered for this faculty development program.

Students Higher Education:

S.No	Name of student with roll no	Institution Joined	Name of program admitted to
1	Sakshith Reddy Ch B19IT012	Texas State University	Master of Science in Computer Science
2	Sriman Reddy Rondla B19IT015	Clark University	Master of Science in Information Technology (MSIT)
3	N. Akhil Sai B19IT022	Arizona State University	Master of Science in Information technology & Project management
4	Naga sreya Thota B19IT043	University of Memphis	Master of Science in Data science
5	Shivani Nagamandla B19IT057	University of Missouri-Kansas City	Master of Science in Data Science
6	Rachana Vannala B19IT034	University of Cincinnati	Master of Science in Information Technology
7	Chaitra Rao Katikaneni B19IT013	University of Cincinnati	Master of Science in Information Technology
8	Rajahiresh Kalva B19IT001	Saint Louis University	Master of Science in Information Systems

S. No	Name of the qualifying student	Level of Exam	Name of competitive examination
1	N. Akhil Sai B19IT022	International	Duolingo
2	E. Sai Swaroop Reddy B19IT040	International	Duolingo
3	Thota Naga Sreya B19IT043	International	Duolingo
4	Ch. Sakshith Reddy B19IT012	International	GRE
5	K. Chaitra Rao B19IT013	International	GRE
6	N. Akhil Sai B19IT022	International	GRE
7	J. Sai Nikhil B19IT025	International	GRE
8	E. Sai Swaroop Reddy B19IT040	International	GRE
9	K. Sai Ganesh B19IT047	International	GRE
10	A. Ruthvik Reddy B19IT007	International	IELTS
11	Ch. Sakshith Reddy B19IT012	International	IELTS
12	K. Chaitra Rao B19IT013	International	IELTS
13	J. Sai Nikhil B19IT025	International	IELTS

14	K. Rajahiresh B19IT001	International	IELTS
15	N. Shivani B19IT057	International	TOEFL
16.	A.S.V.S.S. Renuka (B19IT011)	National	GATE

Students Placements:

S. No.	Name of student with Roll No	Name of the Employer	Pay at appointment (In INR per annum)
1	RAVVA LAXMI SHARANYA (B19IT002)	JSW	9.5
2	PABBATHI SANTHOSHI (B19IT003)	DEXTARA	5
3	GUJJA SRUTHI (B19IT004)	TCS NINJA	4
4	SUHAS PANAKANTI (B19IT005)	MINDTREE	4
5	GADDAM MYTHRI REDDY (B19IT006)	E2OPEN	8
6	PURANAM YUVARAJ (B19IT007)	HEXAWARE	4
7	AILENI RUTHVIK REDDY (B19IT008)	COGNIZANT GENC	4
8	THUTI SUNILEDY (B19IT009)	ACCENTURE - ASE	4.5
9	A V S S RENUKA (B19IT011)	MINDTREE	4
10	CHAITRA RAO K (B19IT013)	COGNIZANT GENC	4
11	VYSHNAVI MALLURU (B19IT014)	E2OPEN	8
12	RONDLA SRIMAN REDDY (B19IT015)	MuSigma	5
13	PILLI RITHIKA (B19IT016)	MINDTREE	4
14	GANGISHETTI SAI PRIYA (B19IT017)	ACCENTURE - ASE	4.5
15	ANUGU ARUN KUMAR (B19IT018)	COGNIZANT GENC ELEVATE	4.5
16	M THULASI RAKESH (B19IT020)	VERISK (AD3i)	7.4
17	NALUBOLA AKHIL SAI (B19IT022)	ZF	6
18	NANDYALA AASHITHA (B19IT024)	INNOVA SOLUTIONS	6
19	PRAKASH ANNARAPU (B19IT027)	APT ONLINE	3
20	CHAVAN SOUMYA (B19IT030)	DBS	8
21	KARNAKANTI RISHITHA (B19IT031)	ACCENTURE - ASE	4.5
22	GUNTI KAVYA SREE (B19IT032)	COGNIZANT GENC	4
23	VANNALA RACHANA (B19IT034)	MuSigma	5
24	PORENDLA.VINAY KUMAR (B19IT035)	APT ONLINE	3
25	GUDA DIVYA (B19IT039)	VERISK (AD3i)	7.4
26	SUMEERA FATHIMA (B19IT041)	JSW	9.5
27	NAREDLA SARAYU (B19IT042)	E2OPEN	8
28	KAKKERLA SRI GANESH (B19IT047)	COGNIZANT GENC	4
29	AMBATI HARSHITH (B19IT048)	MINDTREE	4
30	RAVULA DAYAKAR (B19IT049)	COGNIZANT GENC	4
31	PODISHETTI SHREYA (B19IT050)	CHUBB	11
32	KANDUKURI VEENA (B19IT052)	ACCENTURE - ASE	4.5

33	GANNU VAIBHAVI (B19IT054)	ACCENTURE - ASE	4.5
34	ASIRVADAM JOIS (B19IT056)	ACCENTURE - ASE	4.5
35	T SREEJA GUPTHA (B19IT059)	TCS DIGITAL	7
36	PASUNURI SRAAVANI (B19IT060)	MINDTREE	4
37	SYED MURTUZA HUSSAIN (B20IT061L)	CLOUDPLINTH TECHNOLOGIES	3.25
38	SHIRIVOLU SREETEJA (B20IT062L)	CLOUDPLINTH TECHNOLOGIES	3.25
39	PARIKI VISHAL (B20IT064L)	MuSigma	5
40	MOHAMMAD AFREED (B20IT066L)	COGNIZANT GENC	4

Student Internships:

S.No.	Name of the Organization enrolled for online Internship	Internship mode (Online/Offline)	Dates (Start Date and End date)		Roll Number
1	Coursera	Online	22/6/2021	29/6/2021	B19IT001
2	SkillUp by Simpli learn	Online	04-09-2022	07-11-2022	B19IT002
3	Offered By IIT	Online	01-10-2022	11-11-2021	B19IT003
6	Offered By IIT	Online	20/11/2021	20/1/2022	B19IT006
7	Offered By IIT	Online	01-10-2022	03-10-2022	B19IT007
8	Offered By IIT	Online	01-10-2022	03-10-2022	B19IT008
9	internshala	Online	01-10-2021	03-10-2021	B19IT009
13	Coursera	Online	05-05-2021	07-03-2021	B19IT013
14	Cisco	Online	01-04-2021	04-06-2021	B19IT014
15	Coursera	Online	15-07-2021	09-02-2021	B19IT015
16	Coursera	Online	25/7/2021	2-8-2021	B19IT016
17	Coursera	Online	12-20-2020	31/01/2021	B19IT017
18	Offered by TCS iON	Online	22/06/2021	07-06-2021	B19IT018
19	Coursera	Online	09-06-2021	11-07-2021	B19IT019

20	Udemy	Online	25/09/2021	26/10/2021	B19IT020
21	Udemy	Online	06-01-2021	26/7/2021	B19IT021
22	Offered By TCS iON	Online	10-01-2022	11-03-2022	B19IT022
23	Cisco	Online	09-06-2021	07-07-2021	B19IT023
26	Udemy	Online	05-01-2022	13-07-2021	B19IT026
27	Coursera	Online	05-05-2021	07-05-2021	B19IT027
28	Udemy	Online	07-03-2021	02-08-2021	B19IT028
29	Coursera	Online	05-05-2021	13/7/2021	B19IT029
30	Udemy	Online	05-01-2021	25-06-2021	B19IT030
35	Coursera	Online	22/6/2021	29/6/2021	B19IT035
36	Coursera	Online	22/6/2021	29/6/2021	B19IT036
37	Cisco Network Academy	Online	13/3/2020	13/7/2020	B19IT037
38	Udemy	Online	05-01-2022	16/7/2022	B19IT038
39	Cisco Network Academy	Online	04-04-2021	30/5/2021	B19IT039
40	University of Michigan	Online	07-02-2021	08-02-2021	B19IT040
43	Udemy	Online	01-07-2022	01-09-2022	B19IT043
44	TCS	Online	20/7/2021	26/7/2021	B19IT044
45	SkillUp by Simplilearn	Online	04-11-2022	07-09-2022	B19IT045
47	University of Michigan	Online	05-07-2021	03-08-2021	B19IT047
49	Coursera	Online	26/05/21	06-06-2021	B19IT049
53	TCS iON	Online	20-6-2021	09-05-2021	B19IT053
55	TCS iON	Online	24/6/2021	9-9-2021	B19IT055

56	TCS iON	Online	07-01-2021	30/7/2021	B19IT056
58	TCS iON	Online	06-01-2020	06-10-2020	B19IT058
61	Udemy		Online	07-03-2021	08-01-2021
62	Udemy	Online	07-01-2021	08-02-2021	B20IT062L
64	Career Edge - Knockdown the Lockdown Offered by TCS iON	Online	30/05/2021	18/07/2021	B20IT064L
65	Udemy	Online	3-7-2021	1-8-2021	B20IT065L
66	Udemy	Online	04-07-2021	02-08-2021	B20IT066L

M.Tech (Data Science):

S.No.	Name of the Organization enrolled for online Internship & Title of the Internship	Internship mode (Online/Offline)	Dates (Start Date and End date)		Roll Number
1	INTERNSHALA	Online	01-09-2022	20/11/2022	M21DS001
2	INTERNSHALA	Online	01-09-2022	20/11/2022	M21DS002
3	INTERNSHALA	Online	01-09-2022	20/11/2022	M21DS003

On job Internships by students (provided by T&P):

S.No	Industry Name & details	Internship mode (Online/Offline)	Dates	Roll number of students attended internships
1.	e2open Software India Pvt. Ltd.	Offline	09.05.2022 to 30.06.2023	Vyshnavi Malluru, B19IT014
2.	e2open Software India Pvt. Ltd.	Offline	09.05.2022 to 30.06.2023	Naredla Sarayu, B19IT042
3.	e2open Software India Pvt. Ltd.	Offline	09.05.2022 to 30.06.2023	Gaddam Mythri Reddy, B19IT006

Student Publications:

S.No	Name & Roll number of Students	Title of publication	Conference / Journal details	Faculty associated.
1	S. Divya M20DS005	A Survey on Genomic Dataset for Predicting the DNA Abnormalities using ML	International Journal of Advanced Computer Science and Applications, August 2022	Dr. Y.Bhavani & T. Mahesh Kumar
2	Yuvaraj Puranam B19IT007	Artificial Intelligence Involvement in predicting the heart disease on databases: A Survey	Positif Scopus Indexed Journal, August 2022	S.B.Swathi
3	S.Divya M20DS005	Artificial Intelligence Involvement in predicting the heart disease on databases: A Survey	Positif Scopus Indexed Journal, August 2022	S.B.Swathi
4	Rachana Vannala B19IT034	Artificial Intelligence Involvement in predicting the heart disease on databases: A Survey	Positif Scopus Indexed Journal, August 2022	S.B.Swathi
5	K.Amulya M20DS008	An optimized hyper parameter -based CNN approach for predicting medicinal or non-medicinal leaves	Advances in Engineering Software Journal,	Dr.K.Deepika & Dr.P.Kamakshi
6	G. DIVYA B19IT039	Speech Emotion Recognition using MLP Classifier	International Conference on Innovations in Engineering and Technology, (ICIET), Sept, 2022	Dr.K.Deepika
7	Yuvaraj Puranam B19IT007	AI Chatbot for answering FAQ's	International Conference on Innovations in Engineering and Technology, (ICIET), Sept, 2022	S.B.Swathi
8	Rachana Vannala B19IT034	AI Chatbot for answering FAQ's	International Conference on Innovations in Engineering and Technology, (ICIET), Sept, 2022	S.B.Swathi
9	Asirvadam Jois B19IT056	Prediction of Covid-19 Patients based on X-Ray Images using Machine Learning Techniques	International Conference on Innovations in Engineering and Technology, (ICIET), Sept, 2022	S.B.Swathi
10	Karnakanti Rishitha B19IT031	Prediction of Covid-19 Patients based on X-Ray Images using Machine Learning Techniques	International Conference on Innovations in Engineering and Technology, (ICIET), , Sept, 2022Sept, 2022	S.B.Swathi
11	Bandari Prany Kumar	Class Imbalance Reduction and Training	International Conference on Innovations in Engineering	Dr.B.Kiran Kumar

	M20DS009	Data Selection for Cross Project Defect Prediction	and Technology, (ICIET), , Sept, 2022	
12	Sai Priyanka Kanchanapally M21DS003	Centroid -Based PF-SMOTE for imbalanced data.	International Conference on Mathematical Sciences and Emerging Applications in Tchnology(ICMSEAT-2022)	Dr.B.Kiran Kumar

Co-Curricular/ Extra Curricular activity participation by students:

S.No	Name & Roll number of Students	CO/Extra Curricular Activity Details along with dates	Participation Details	Prizes Won (if any)
1.	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	Running (100m)	2nd prize
2.	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	High Jump	1st prize
3	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	Relay Race	1st prize
4	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	Volleyball	1st prize
5	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	400m Running	1st prize
6	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	Long Jump	2nd prize
7	Kaveri Arkati B20it095	Sports 3/11/2022 to 3/13/2022	200m Running	2nd prize
8	G. Divya B19it039	Sports 12/11/2022 to 14/11/2022	Basket Ball	2nd prize
9	M.Pravalika Reddy B20it068	Workshop 18/11/2022 to 19/11/2022	Data Science with Python	Participation

Details of Students presented CP/CRP during the A.Y 2022-23

S.No	Name of Course	Student Name	Student Roll number	CP/CRP Topic presented
1.	Computer Architecture and Organization	P. Shreya	B21IT010	Computer Organization For Multiple And Out Of-Order Execution Of Condition Code Testing And Setting Instructions Out Of-Order
2.	Advanced Data Structures	B Manideep & Shaik Thohid	B21IT093 & B21IT074	REMIX: Efficient Range Query For LSM-Trees
	Database Management Systems	Sai Nikitha & B Mandideep	B21IT073, B21IT093	Technique for factoring uncertainty into cost-based query optimization

3	Java Programming	P. Shreya	B21IT010	Java Virtual Machine
4	Design and Analysis of Algorithms	B Maria James	B20IT018	Engineering Optimization By Using Anexact Polynomial Algorithm For The 0-1 Knapsack Problem
5	Design and Analysis of Algorithms	B. Sriram	B20IT110	Engineering Optimization By Using An Exact Polynomial Algorithm For The 0-1 Knapsack Problem
6	Web Technologies	Bangari Soni	B20IT094	Systems And Methods For Identifying And Extracting Data From Html Pages
7	Compilers	P Sai Ratan	B20IT072	Compler Complersystem With Syntax-Controlled Runtime And Binary Application Programming Interfaces
8	Artificial Intelligence	T. Bhargavi	B20IT042	Apparatus And Methods For Remotely Contrilling Robotics
9	Artificial Intelligence	Vodela Supritha	B20IT090	End-To-End Speech Recognition
10	Data Warehousing and Data Mining	Sanju sree	B20IT075	Patent Data Mining Method And Apparatus
11	Blockchain Technologies	Puaranam Yuvaraj	B19IT007	Tampering Verification System And Method For Financial Institutions Certificate Based On Blockchain.

Details of Students completed Course project during the A.Y 2022-23

S.No	Name of Course	Student Name	Student Roll number	Course Project presented
1.	Java Programming	B. Dheeraj	B22IT139L	AWT Application to develop a text Editor in JAVA
2.	Cryptography and Network Security	P. Nithya Vaibhavi	B20IT054	Image Steganography

Details of Faculty completed Honors/ Minors /Swayam NPTEL Courses in A.Y 2022-23

S.No	Name of Faculty	Swayam NPTEL course completed	Grade
1.	Dr. Y. Bhavani	Programming Data Structures and Algorithms using Python	Received Completion Certificate
2.	S. Sangeetha	Introduction to Industry 4.0 and Industrial Internet of Things	Received Completion Certificate

ARTICLE

Translation Processes, Free Energy and Active Inference

Translation process research (TPR) has generated a large number of models that aim at explaining human translation processes. In this paper, I suggest an extension of the monitor model to incorporate aspects of relevance theory (RT) and to adopt the free energy principle (FEP) as a generative model to elucidate translational behavior. The FEP—and its corollary, active inference—provide a general, mathematical framework to explain how organisms resist entropic erosion so as to remain within their phenotypic bounds. It posits that organisms reduce the gap between their expectations and observations by minimizing a quantity called *free energy*. I map these concepts on the translation process and exemplify them with behavioral data. The analysis is based on the notion of translation units (TUs) which exhibit observable traces of the translator's epistemic and pragmatic engagement with their translation environment, (i.e., the text) that can be measured in terms of translation effort and effects. Sequences of TUs cluster into translation states (steady state, orientation, and hesitation). Drawing on active inference, sequences of translation states combine into translation policies that reduce expected free energy. I show how the notion of free energy is compatible with the concept of *relevance*, as developed in RT, and how essential concepts of the monitor model and RT can be formalized as deep temporal generative models that can be interpreted under a representationalism view, but also support a non-representationalism account. Translation processes have long fascinated researchers and practitioners alike due to their complexity and multidimensionality. In recent years, insights from cognitive science, particularly the concepts of free energy and active inference, have offered new perspectives on understanding the intricacies of translation. This essay delves into how these concepts illuminate various aspects of translation processes, shedding light on the cognitive mechanisms involved in bridging linguistic and cultural gaps.

Translation Processes:

Translation processes refer to the mechanisms and methods used to convert text or content from one language to another. This can involve various techniques such as manual translation by human translators, machine translation using computer algorithms, or a combination of both.

Translation processes refer to the series of cognitive, linguistic, and practical steps involved in rendering a text from one language (the source language) into another language (the target language). These processes are complex and multifaceted, requiring translators to navigate linguistic nuances, cultural differences, and contextual considerations. While there is no universal translation process that applies to all situations, several common steps can be identified:

- 1. Comprehension:** The translator begins by thoroughly understanding the source text. This involves reading and analyzing the text to grasp its meaning, context, and intended message. Effective comprehension is crucial for producing an accurate and faithful translation.

- 2. Analysis:** Once the source text is understood, the translator analyzes its linguistic features, including grammar, vocabulary, style, and tone. This analysis helps identify potential challenges and determine the most appropriate translation strategies.
- 3. Research:** Depending on the content and subject matter of the text, the translator may need to conduct research to clarify ambiguous terms, cultural references, or specialized terminology. Research may involve consulting dictionaries, reference materials, experts, or online resources.
- 4. Decisions:** Translators make a series of decisions regarding translation choices, such as word selection, sentence structure, and stylistic conventions. These decisions are influenced by considerations of accuracy, clarity, cultural appropriateness, and the target audience.
- 5. Drafting:** With decisions made, the translator begins drafting the translation. This involves transferring the meaning of the source text into the target language while striving to preserve its original intent, tone, and style. Translators may employ various techniques, such as paraphrasing, literal translation, or adaptation, depending on the context.
- 6. Revision:** After completing the initial draft, translators review and revise their work to ensure accuracy, coherence, and fluency. This process may involve checking for grammatical errors, refining phrasing, and fine-tuning the translation to improve readability and overall quality.
- 7. Quality Assurance:** Before finalizing the translation, translators may engage in quality assurance measures, such as proofreading, editing, and seeking feedback from colleagues or clients. These steps help identify and rectify any remaining issues or inconsistencies in the translation.
- 8. Localization (if applicable):** In cases where the translation is intended for a specific locale or audience, translators may need to adapt the text further through a process known as localization. This involves considering regional dialects, cultural norms, and market preferences to tailor the translation to the target audience.
- 9. Finalization:** Once all revisions and quality checks are complete, the translator finalizes the translation and delivers it to the client or intended audience. This may involve formatting the text, preparing accompanying materials, and ensuring that any client specifications or requirements are met.
- 10. Feedback and Iteration:** After delivery, translators may receive feedback from clients or end-users. This feedback is valuable for evaluating the effectiveness of the translation and identifying areas for improvement. Translators may then iterate on the translation based on this feedback, refining their approach for future projects.

Throughout the translation process, translators must employ a combination of linguistic proficiency, cultural competence, subject matter expertise, and critical thinking skills to produce

accurate, fluent, and culturally sensitive translations that effectively convey the intended message to the target audience.

Free Energy: In the context of physics and thermodynamics, free energy refers to the energy available in a system that can be used to perform work. It is a measure of the potential energy that can be harnessed from a system. In biology and neuroscience, the concept of free energy is also used to understand and model the dynamics of living systems and their ability to maintain stability and adapt to their environment.

Active Inference: Active inference is a theoretical framework in cognitive science and neuroscience that proposes how organisms actively gather and process information from their environment to make predictions and take actions. It suggests that organisms continuously generate and update internal models of the world, and use these models to minimize prediction errors and maximize the accuracy of their predictions. Active inference is often used to explain perception, decision-making, and learning processes in biological systems.

The active inference framework, and in particular its recent formulation as a partially observable Markov decision process (POMDP), has gained increasing popularity in recent years as a useful approach for modeling neurocognitive processes. This framework is highly general and flexible in its ability to be customized to model any cognitive process, as well as simulate predicted neuronal responses based on its accompanying neural process theory. It also affords both simulation experiments for proof of principle and behavioral modeling for empirical studies. However, there are limited resources that explain how to build and run these models in practice, which limits their widespread use. Most introductions assume a technical background in programming, mathematics, and machine learning. In this paper we offer a step-by-step tutorial on how to build POMDPs, run simulations using standard MATLAB routines, and fit these models to empirical data. We assume a minimal background in programming and mathematics, thoroughly explain all equations, and provide exemplar scripts that can be customized for both theoretical and empirical studies. Our goal is to provide the reader with the requisite background knowledge and practical tools to apply active inference to their own research. We also provide optional technical sections and multiple appendices, which offer the interested reader additional technical details. This tutorial should provide the reader with all the tools necessary to use these models and to follow emerging advances in active inference research.

Siripuri Divya
M20DS005