National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

Curriculum Vitae

Brief Profile: I am Karthick S and I have a teaching, industrial and research experience of about 18 years in Morgan Stanley, Mumbai, Thiagarajar College of Engineering, NIT Andhra Pradesh and NIT Tiruchirappalli. I have an interest to teach a spectrum of courses from core theoretical CS courses such as Automata theory, Compiler Design, Data Structures and Algorithms to courses that emphasize computational thinking, characterizing uncertainty using probabilistic graphical models, and AI. My research interests include Probabilistic Graphical Models, High Performance Computing and AI for Language, Vision and Control. My objective is to work as a problem solver, teacher and researcher across a diverse set of thrust domains pertaining to Computer Science, to the best of my capability and in alignment with the goals of the institute and contribute to nation-building and to be of technological service to the society.

1.	Name:	Karthick S
2.	Designation:	Assistant Professor (Grade I)
3.	Office Address:	Department of CS & Engg., NIT Tiruchirappalli, Tiruchirappalli – 620015 Tamil Nadu, India
4.	Telephone (Direct) (Optional): Telephone : Extn (Optional): Mobile (Optional):	Not Available
5.	Email (Primary):	skarthick [at] nitt [dot] edu
6.	Field(s) of Specialization:	Algorithms, Probabilistic Graphical Models, High Performance Computing, AI for Language, Vision and Control

7. Employment Profile

Job Title	Employer	From	To
Assistant Professor (Grade I)	National Institute of Technology Tiruchirappalli	05 March 2026	Till date
Assistant Professor (Grade I)	National Institute of Technology Andhra Pradesh	09 August 2018	04 March 2026

Assistant Professor (Grade II)	Thiagarajar College of Engineering, Madurai	02 September 2011	25 June 2018
IT Associate	Morgan Stanley, Mumbai	16 August 2010	30 August 2011
Assistant Systems Engineer	Tata Consultancy Services, Chennai	06 September 2005	31 July 2008

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Doctor of Philosophy	Anna University, Chennai	2017	Thesis was Highly Commended by Prof. Stephane Bressan, NUS Singapore	Thesis Title: Design and Performance Evaluation of Parallel Algorithms for Hierarchical Clustering of Large Text Collections, under the mentoring of Prof. S. M. Shalinie, AU Chennai and Prof. Balaraman Ravindran, IIT Madras
Master of Technology	NIT Tiruchirappalli	2010	First Class with Distinction (CGPA: 10 out of 10), Gold Medalist	Computer Science
Bachelor of Engineering	Anna University, Chennai	2005	First Class with Distinction (CGPA: 9.11 out of 10), Academic Proficiency Prize for having been the first rank holder of my batch across various semesters	Computer Science and Engineering
Higher Secondary (+2)	Board of Higher Secondary Examination, Tamilnadu	2001	94.08% (State First in Sanskrit)	Mathematics, Physics, Chemistry, Computer Science, English and Sanskrit
Secondary (10^{th} Standard)	Board of Secondary Education, Tamilnadu	1999	93.40% (State First in Mathematics)	Mathematics, Science, Social Science, Tamil and English

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Lab-in-Charge	AI Lab, Department of CSE, NITT	April 2026	Till date

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Dean (Faculty Welfare)	NIT Andhra Pradesh	20 December 2024	03 March 2026
Dean (Students' Career, Alumni and International Relations)	NIT Andhra Pradesh	20 September 2021	01 January 2025
Head, Department of Computer Science and Engineering	NIT Andhra Pradesh	10 September 2018	19 September 2021

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2025	Best Paper Award for my paper entitled "Upper Confidence Bound versus Adaptive Posterior Sampling for Multi-Armed Bandit Game Models" in an International Conference on Innovative Trends in IT sponsored by IEEE.	IIIT Kerala
2023	Best Paper Award for my paper entitled "A heuristic for minimizing resource requirements for quantum graph neural networks" in the Data Science and AI Track of the International Conference on Deep Learning, AI and Robotics sponsored by Springer	NIT Kurukshetra
2023	My research work on quantum probabilistic graphical models was selected as the best project under the Quantum Computing Applications Lab Scheme for showcase before media at New Delhi.	MEITY and Amazon AWS
2018	Teacher's Associateship for Research Excellence	SERB
2024	Engineering Excellence Award	Lion's Club
2015 and 2016	Qualified in NET (Computer Science and Applications)	UGC
2016	Qualified in SET (Computer Science and Applications)	Govt. of Tamil Nadu
2018	One of the toppers in the written Exam for the position of Scientist.	ISRO
2015	My paper entitled "Parallel Algorithms For merging topic trees" got the best research poster award in the	ACM

	ACM KDD CODS conference	
2018	ICPC Coach Award	ACM
2017	IEEE Coach Award	IEEE
2023	IEEE Senior Member Award	IEEE
2017-2018	State Rank: 1 in the Computer Science and Engineering Exam for lecturership conducted by the Govt. of Tamilnadu, India.	Teacher's Recruitment Board, Govt. of Tamil Nadu
2007-2008	"Star of AXA" award for efficient handling of production incidents.	AXA, UK
2019	Higher Degree Research Supervisor Recognition by Griffith University, Australia	Griffith University, Australia
2017-2018	Ph.D. Supervisor Recognition	Anna University, Chennai
2008-2010	Gold Medal for having secured the First Rank in M.Tech. (CS)	NIT Tiruchirappalli
2008-2010	Institute Award for the First Rank Holder in M.tech.	NIT Tiruchirappalli
2010	RECAL's Outstanding Student Award	NIT Tiruchirappalli
2006	Sun Certified Java Programmer	Sun Microsystems
2007	Sun Certified Web Component Developer	Sun Microsystems
2008	Sun Certified Developer for Java Web Services	Sun Microsystems
2001-2005	Academic Proficiency Award for having secured first rank across various semesters in B.Engg. (CSE), Thiagarajar College of Engineering, Madurai	Thiagarajar College of Engineering, Madurai
2001	State First in Sanskrit Higher Secondary Examination	Board of Higher Secondary Examination, Govt. of Tamil Nadu
1999	State First in Mathematics Secondary Examination	Board of Secondary Examination, Tamil Nadu

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2024-2025	One of the 25 selects nation-wide for mentoring under INAE Fellows (Underwent research mentoring in the Centre for Responsible AI, IIT Madras, under the supervision of Prof. Balaraman Ravindran)	INAE	Sep 2024	Sep 2025
2018	Australian Research Council's Discovery Fellowship of 81246 AUD for three years with a Research grant worth 1,38,080 Australian Dollars (AUD) for	Swinburne University of Technology, Australia	March 2018	Did not avail and joined NIT Andhra Pradesh instead

	four years			
2022	Quantum Computing Applications Lab Fellowship	MEITY	March 2022	2024
2021	AI and Robotics Park Innovation Grant	IISc Bangalore	August 2021	August 2022
2011-2016	TEQIP Fellowship – A fee waiver was provided	TEQIP (Phase III)	2011	2016
2008-2010	GATE Fellowship	MHRD	2008	2010

13. Details of Academic Work

(i) Curriculum Development

I have designed the following courses in my earlier capacity as a BoS Member in NIT Andhra Pradesh:

a) Data Structures and Algorithms
b) Randomized and Approximation Algorithms
c) Advanced Algorithms
d) Advanced Computational Statistics
e) Probabilistic Graphical Models
f) Design and Analysis of Parallel Algorithms
g) Discrete Mathematics
h) Theory of Computation
i) Compiler Design
j) Performance Modeling of Computer Systems
k) Operating Systems
l) Modeling and Optimization
m) Distributed Computing
n) Problem Solving and Programming
o) Graph Algorithms
p) High Performance Computing
q) Design and Analysis of Algorithms
r) Object Oriented Programming
s) Reinforcement Learning

(ii) Courses taught at Postgraduate and Undergraduate levels

<u>Postgraduate Courses:</u>

a) Distributed Computing
b) Randomized and Approximation Algorithms
c) Design and Analysis of Parallel Algorithms
d) Advanced Algorithms
e) Performance Modeling of Computer Systems
f) Probabilistic Graphical Models

Undergraduate Courses:

a) Data Structures and Algorithms
b) Randomized Algorithms
c) Theory of Computation
d) Compiler Design
e) Operating Systems
f) Modeling and Optimization
g) Problem Solving and Programming
h) Design and Analysis of Algorithms
i) Object Oriented Programming
j) Artificial Intelligence

(iii)Projects guided at Postgraduate level

In NIT Andhra Pradesh:

#	Title of Dissertation	Name of the student	Year of Passing
1	Design and Evaluation of Causal Inference and Ranking Models for Sentiment Analysis	Samriddhee Ghosh	2022
2	Fine tuning the Robust Temporal Feature Magnitude Model for Enhancing the Accuracy of Anomaly Detection	Charupalli Charan	2022
3	Assessment of Deep Sequence Models for Characterization and Prediction of Cloud Workloads	Manasa Pachava	2022
4	Video Anomaly Detection using Dynamic Temporal Graphs	Vamsi Prasanth	2023
5	Design and Analysis of Quantum Models for Inference in Bayesian Networks	Awismrit Parida	2023
6	Efficient Quantum Representation Learning and Inference for Bayesian Networks	Nayak Padmil Hiteshkumar	2024

In Thiagarajar College of Engineering, Madurai:

S.No.	Title of Disseration	Name of Student	Pass out Year
1	Community Detection In Online Social Network Using a Probabilistic Graphical Model	M. Vetrivel	2014
2	Large-scale clustering using probabilistic graphical modeling	M. Vetrivel	2014
3	Clustering high dimensional data	G. Kalaivani	2015
4	Dimensionality reduction techniques for document clustering	G. Kalaivani	2015
5	A set theoretic feature selection technique for scalable nearest neighbour searching of text documents	N.Deivanai	2016
6	A feature selection technique for various widths clustering of text documents.	N. Deivanai	2016
7	Image directory construction using intelligent sampling with spectral clustering	R. Manoranjani	2017
8	Equipment Power management system	R. Manoranjani	2017
9	Writer identification from handwritten text	R. Raja Subramanian	NA (2018)

(iv) Other contributions

a. Serving as an Advisor on the Board of Governors of Asta Health Tech, a start-up incubated by Mr. Adyanta Dubey, an undergraduate student in NIT Andhra Pradesh. This Start-up was selected for a funding support of INR 80 Lakhs under the Samriddh Accelerator Scheme under MEITY and IISER Pune.

b. Designed a validation engine to evaluate Enixta's Sentiment Analyzer and transferred the technology to Enixta.

c. Designed and implemented a Remote ICU monitoring framework and transferred the technology to the Director Dr. Suresh K, Southern Railways Hospital, Chennai. (Filed a patent in the Indian Patent Office with the Application number: 202341039746).

d. Designed a framework for facilitating elastic cloud computing and transferred the design to the AI and Data Platforms division of LinkedIn. (Also culminated as a joint publication in IEEE Transactions on Cloud Computing).

e. Designed and implemented an E-beat monitoring system for the Police Stations in Tadepalligudem, Andhra Pradesh to automatically monitor the patrolling officers and report to the Sub-Inspector.

f. Designed and implemented an intelligent Placements Automation Application for the T&P section in NIT Andhra Pradesh and the system is in the beta testing phase and will be rolled out shortly.

g. Collaborated with Dr. Fan Zhang, School of Architecture, Griffith University and Dr. Liu Shichao of Worchester Polytechnic Institute MA, USA, to develop and implement deep neural model for Indoor Air quality analysis from Customer Reviews in Australian hotels and Guest Accommodations.

h. Collaborated with Dr. Tingting Liu of Griffith University, Dr. Rongrong Yu of South Australian University and Dr. Gou Zhonghua of Wuhan University to develop AI models for green performance analysis of airports.

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Efficient AI-based CAPEX and OPEX optimizing automatic vital monitoring and clinical decision support system in hospital wards	Mentor, ATAL National Innovation Mission	2025	2027	Ongoing

AI for Energy and Healthcare	ANRF	2025	2026	Completed
A Scalable Resource Requirement Prediction and Provisioning Framework for Elastic Cloud	AI and Data Platforms division of LinkedIn	2021	2025	Completed
Effective modeling and efficient processing of data provenance and context aware of information retrieval of web scale documents.	NIT Andhra Pradesh	2019	2021	Completed
Design and Evaluation of a Deep Neural Network Framework for Inferring and Ranking Causes for Sentiments in Product Reviews	AI and Robotics Research Park (ARTPARK), IISc Bangalore	2021	2022	Completed
Leveraging quantum computing for efficient learning and inference in probabilistic graphical models	Ministry of Electronics and IT (MEITY)	2022	2024	Completed
Intelligent Banking Kiosk	Institute for Development and Research in Banking Technology (IDRBT), Hyderabad	2021	2022	Completed
Design and Evaluation of Explainable and Scalable AI models for Elastic Cloud Computing	AI and Data Platforms division of LinkedIn	2024	2025	Completed

and large-scale analytics				
Mobile Data Challenge	Idiap Research Institute, Switzerland (Mobile Data licenses were sponsored)	2013	2014	Completed
Parallel Text Analytics and Recommender Systems	Nokia R&D	2013	2016	Completed
Validation of Enixta's aspect-oriented sentiment analysis engine	Enixta	2018	2019	Completed
Multi-word Tagger	Honeywell Technology Solutions, Madurai	2011	2012	Completed

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Rayala Upendra Rao	Design and Assessment of Representation Learning Models for Telugu and Code-mixed Telugu	Supervisor	2026 (Thesis Submitted)
V R P S Sastry Yadavilli	Design and Evaluation of Causality-Aware Sentiment Analyzers for Product Reviews	Supervisor	2025 (Awarded)
Korrapati Sindhu	Models for Effective and Efficient Resource Management in Virtual Data Centers	Supervisor	2025 (Awarded)
Jegan Ramakrishnan	Green Performance Evaluation of	Co-Supervisor	2023 (Awarded)

	Airport Buildings using Data-driven Learning Approaches		
Samriddhee Ghosh	Cloud workload characterization models for Green Computing	Supervisor	2023 (Comprehensive Exam Passed)
Kumar Anurupam	Network threat characterization models	Supervisor	2023 (Comprehensive Exam Passed)
Sookshma Mandala	Neural Topic Models	Co-Supervisor	2023 (Comprehensive Exam Passed)
Phaniharam Vishnuganesh	Fairness in Large Language Models	Supervisor	2026 (Comprehensive Exam Passed)
Dasari Prasad	Distributed Quasi-Newton Optimization Methods	Supervisor	2026 (Comprehensive Exam Passed)

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
22 May 2025	Presented a paper entitled "Assessment of the Knowledge-Infused Policy Gradient Approach for StarCraft International Conference on ICT for Intelligent Systems	International Conference on ICT for Intelligent Systems	Paper Presenter	Trinity University	Cornell University, New York, USA
19	Presented a	International	Paper	NUS	NUS

Nov 2021	paper entitled "Metric Learning for comparison of HMMs using Graph Neural Networks"	Conference- Asian Conference on Machine Learning (ACML)	Presenter	Singapore	Singapore
13 Sep 2021	Presented a paper entitled "Representation Learning using Graph Neural Nets: A case-study in HMMs"	International Conference – European Conference on Machine Learning (ECML) in the Graph Embedding and Mining Workshop	Paper Presenter	Basque Center for Applied Mathematics, Spain	Spain
5 July 2021	Presented a paper entitled "Adoption of virtual laboratories for Computer Science: deterrents, enablers and modalities"	International Conference - 13th International Conference on Education and New Learning Technologies	Paper Presenter	IATED Academy, Spain	Valencia, Spain
March 2023	Presented a paper entitled "Leveraging Conventional CS Problems for Blended-Learning in Algorithms Practice: An Experimental Option in Undergraduate Learning"	International Conference-	Paper Presenter	IATED Academy, Spain	Valencia, Spain
02 Aug 2022	Presented a paper entitled "Fine-tuning the Robust Temporal Feature Magnitude Model for	International Conference IEEE 5th International Conference on Multimedia Information	Paper Presenter	IEEE Computer Society	Virtual

	Enhancing the Accuracy of Anomaly Detection,"	Processing and Retrieval (MIPR)			
18 Mar 2015	Presented a paper entitled "Parallel algorithms for merging topic trees and their application in meta search engines"	International-2nd ACM IKDD Conference on Data Sciences (CODS '15).	Paper Presenter	ACM	Bangalore, India
28 May 2025	Key note Talk on Time Series Models	International Conference – Computational Robotics, Testing and Engineering Evaluation	Key note Speaker	IEEE Madras Section	Kalasalingam University, Tamil Nadu
14 Juy 2025	Delivered a lecture on "Foundations of Quantum Computing: Spins, Quantum Algebra and Qubits"	National-FDP on Quantum Technologies	Speaker	ATAL	Adikavi Nannaya University, Rajahmundry
08 May 2025	Delivered a talk on Variational Auto Encoders for NLP Applications	National-FDP on Deep Learning for NLP sponsored by E&ICT Academy, NIT Warangal	Speaker	MEITY	Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh
21 May & 25 May 2023	Delivered four sessions on Randomized and Approximation Algorithms	National-FDP sponsored by E&ICT Academy, NIT Warangal	Speaker	MEITY	NIT Warangal
05 July 2022	Delivered a talk on "Machine Learning and Data Science"	National- in the Summer school on "Advanced technologies in STEM"	Speaker	IEEE	NIT Andhra Pradesh

27 Aug 2021	Delivered an expert lecture on "Unsupervised Learning"	National – FDP on AI	Speaker	JNTU Ananthapur	JNTU Ananthapur
14 June 2019	Delivered an expert lecture on "Hidden Markov Models"	National-FDP on Data Science	Speaker	KL University	Vijayawada
24 Sep 2020	Delivered a talk on "AI as an enabler for attaining UN's Sustainable Development Goals"	National - in the AICTE ATAL sponsored FDP on "Cyber Physical Production Systems"	Speaker	NIT Andhra Pradesh	Andhra Pradesh
17 May 2021	Expert Speaker for the session on "Bayesian Data Analytics"	National - in the AICTE ATAL sponsored FDP on "Applied Machine Learning and Data Science"	Speaker	IIIT Dharwad	Dharwad
09 Feb 2019	Expert Speaker on "Parallel Program Development"	National- in the FDP on High Performance Computing for Science and Engineering sponsored by AICTE QIP	Speaker	Thiagarajar College of Engineering	Madurai
09 Mar 2023	Expert Speaker on "Cloud Workload Characterization"	National- in the FDP on "Integrated AI in Data Science and its Applications in Cloud"	Speaker	Thiagarajar College of Engineering	Madurai
17 Feb 2021	Delivered two expert lectures on "Unsupervised Learning" and	National- in the Workshop on AI and ML Techniques	Speaker	NIT Tiruchirappalli	Tiruchirappalli

	"Bayesian Analytics"				
09 May 2023	Delivered a lecture on "ML models for Edge computing: Architecture and Use cases"	National- in the FDP on "AI for Edge Computing"	Speaker	Thiagarajar College of Engineering	Madurai
17 July 2021	Delivered an expert talk on "Workload Characterization techniques for capacity planning and scheduling in Cloud"	National- in the FDP on "Research Challenges and Opportunities of Cloud and Services Computing"	Speaker	Thiagarajar College of Engineering	Madurai
31 Aug 2019	Delivered an expert talk on "Anomaly detection models"	National- in the FDP on "AI and Cyber Security"	Speaker	Thiagarajar College of Engineering	Madurai
09 Oct 2021	Delivered an expert talk on "Embeddings and Metric Learning Models"	National- in the FDP on "Open Source Tools for AI and ML"	Speaker	Thiagarajar College of Engineering	Madurai
11 Jan 2021	Delivered an expert talk on "Introduction to Deep Neural Networks"	National-" in the workshop on "Deep Neural Networks and Applications in Text and Image Processing"	Speaker	VIT Vellore	Vellore
17 Nov 2022	Delivered a talk on "Ethics and Values"	National- in a two-weeks AICTE ATAL Sponsored FDP entitled "Condition Monitoring and Hydrodynamic Design of	Speaker	AICTE ATAL Academy	NIT Andhra Pradesh

		Marine Vehicles"			
24 Sep 2020	Delivered an expert talk on "LP and SDP for hard problems"	National- in the FDP on Optimization Techniques	Speaker	NIT Andhra Pradesh	Andhra Pradesh
16 Sep 2019	Delivered a talk on "Knowledge Representation and Inference through Probabilistic Graphical Models"	National - in the FDP on "AI and its Applications" sponsored by the AICTE ATAL Academy	Speaker	AICTE ATAL Academy	NIT Andhra Pradesh
04 Feb 2019	Delivered three sessions on "Clustering High Dimensional Datasets"	National- in the FDP on "Soft Computing Techniques for analysis of large-scale datasets" sponsored by the E&ICT Academy NIT Warangal	Speaker	NIT Andhra Pradesh	Andhra Pradesh
06 June 2019	Delivered a lecture on "RNN and CNN"	National- in the FDP on "Deep Learning" sponsored by the E&ICT Academy NIT Warangal	Speaker	NIT Andhra Pradesh	Andhra Pradesh
03 May 2019	Delivered a technical talk on "Page Rank and Community Detection Models"	National- in the FDP on "Big Data Computing" sponsored by the E&ICT Academy, NIT Warangal	Speaker	NIT Andhra Pradesh	Andhra Pradesh
23 Jul 2021	Delivered a session on "Parallel algorithms for selection,	National- in the SERB sponsored FDP on "Parallel and	Speaker	NIT Andhra Pradesh	Andhra Pradesh

	searching and sorting"	Distributed Computing"			
07 Sep 2020	Delivered two lectures on "Latent Factor Models and applications of linear algebra in search engines"	National- in the AICTE ATAL sponsored FDP on "Applications of linear algebra in data science"	Speaker	NIT Andhra Pradesh	Andhra Pradesh
01 Oct 2018	Delivered a lecture on "Parallel Program Development for Big Data Analytics with hands on"	National- in the FDP on "FoSS for AI and ML"	Speaker	Thiagarajar College of Engineering	Madurai

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
A GIAN Course entitled "A Technical Overview of Public and Private Blockchains" is organized during Feb 7 to Feb 11, 2022 with course instructors Prof. Ramki Thurimella, University of Denver, USA and Dr. Karthick S.	International	Feb 7 -11, 2022	Coordinator	NIT Andhra Pradesh
FDP on "Machine Learning for Language, Vision and Control" sponsored by the E&ICT Academy NIT Warangal was organized	National	25.03.2019 to 30.03.2019	Coordinator	NIT Andhra Pradesh
FDP on "Data Analytics" sponsored by NIT Andhra Pradesh was	National	15.06.2020 to 19.06.2020	Coordinator	NIT Andhra Pradesh

organized				
FDP on "Deep Learning for NLP" sponsored by NIT Andhra Pradesh was organized	National	23.11.2020 to 27.11.2020	Coordinator	NIT Andhra Pradesh
FDP on "Machine Learning for Language and Vision" sponsored by AICTE ATAL Academy was organized	National	01.02.2021 to 05.02.2021	Coordinator	NIT Andhra Pradesh
Short Term Training Programme of five days duration on "Design Thinking" sponsored by CRIIC, NIT Andhra Pradesh was organized during September 2021.	National	September 2021	Coordinator	NIT Andhra Pradesh
STTP on "Ideation and Design Thinking", co-coordinated under Institute Innovation Council.	National	Nov 2022	Co-coordinator	NIT Andhra Pradesh

18. Invited Talks delivered

Topic	Date	Inviting Organization
Competitive Programming	23.09.2025	Thiagarajar College of Engineering, Madurai.
Variational Autoencoders	01.07.2024	Thiagarajar College of Engineering, Madurai.
Media Outreach by showcasing the R&D project entitled "Quantum probabilistic graphical models" in New Delhi.	22.09.2023	MEITY and Amazon AWS
Delivered a Key note talk on "Human Resource Development in Technical Education" in the Vigyan Utsav Programme	21.10.2021	Andhra Pradesh State Council of Science and Technology, Govt. of Andhra Pradesh
Delivered an expert lecture on "Enabling the positive use cases of AI to meet Sustainable Development Goals"	25.04.2021	IEEE Chapter, Vizag Bay Section
Delivered a technical talk in the online mode entitled	29.08.2020	GH Raisoni Institute of Engineering and Technology,

"Introduction to Randomized and Approximation Algorithms"		Nagpur University
Delivered a seminar entitled "Parallel Learning Algorithms"	22.06.2020	Thiagarajar College of Engineering, Madurai
Delivered a webinar on "Institution building by teachers in the digital age" to internal and external participants on the occasion of teacher's day celebrations.	07.09.2020	NIT Andhra Pradesh

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Computer Society of India	I1501765
Member	ACM	1092052
Senior Member	IEEE	96065110

20. Publications
(A) Patents:

#	Title	Status	Inventor	Date of filed/published/ granted	Patent No.	Name of Country
1	SYSTEM AND METHOD FOR COMPUTER VISION BASED REMOTE PATIENT MONITORING	Published	Yes	13-12-2024	202341039746	India
2	SYSTEM AND METHODS FOR ON THE FLY INTELLIGENT KNOWLEDGE ACQUISITION AND CONTEXT AWARE SCRIBING USING IOT	Granted	Yes	08-08-2024	201841023572	India
3	A parallel Web directory constructor (PWDC) for automatically creating Web directories	Granted	Yes	10-03-2022	202022100124	Germany

(B) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
Upendar Rao Rayala, Karthick Seshadri	Sentiment analysis of code-mixed Telugu–English text using transformers	Journal of Computational Social Science, Springer	9		2026	Q2
Srinath Devale, Karthick Seshadri, Nagesh Bhattu S	Design and evaluation of a quantum variational graph auto-encoder using quantum graph neural networks	Quantum Machine Intelligence, Springer	7		2025	Q1
Karthick Seshadri, VRPS Sastry Yadavilli, Samriddhee Ghosh	Inference of context and sentiment-aware causal phrase embeddings from product reviews using multi-relational graph neural network	Multimedia Tools and Applications, Springer	84	44227–44250	2025	Q1
Korrapati Sindhu, Karthick Seshadri	A dynamic probabilistic graphical model for mapping tasks to virtual machines in data centers	Engineering Applications of Artificial Intelligence, Elsevier	155	110963	2025	Q1
Kumar Anurupam, Karthick Seshadri	Lightweight representation learning for network traffic towards malicious traffic detection in edge devices	Journal of Information Security and Applications, Elsevier	93	104186	2025	Q1

Nayak, P., Seshadri, Karthick	Towards quantum amenable Bayesian networks: classical transformation to facilitate quantum inference	Quantum Machine Intelligence, Springer	7		2024	Q1
Sindhu, Korrapati; Seshadri, Karthick; Kollengode, Chidambaran;	Workload characterization and synthesis for cloud using generative stochastic processes	The Journal of Supercomputing, Springer	78	18825–18855	2022	Q2
Yadavilli, VRPS Sastry; Seshadri, Karthick;	Explainable sentiment analysis for product reviews using causal graph embeddings	Sādhanā, Springer	47		2022	Q2
Karthick Seshadri, K. Sindhu, S. N. Bhattu and C. Kollengode	Design and Evaluation of a Hierarchical Characterization and Adaptive Prediction Model for Cloud Workloads	IEEE Transactions on Cloud Computing, IEEE	12	712-724	2024	Q1
Rao, Rayala Upendar; Seshadri, Karthick; Sristy, Nagesh Bhattu	Sentiment analysis of code-mixed Telugu-English data leveraging syllable and word embeddings	ACM Transactions on Asian and Low-Resource Language Information Processing, ACM	22	1-30	2023	Q2
V.R.P.S. Sastry Y, Karthick Seshadri, Nagesh Bhattu S	Joint modeling of causal phrases-sentiments-aspects using Hierarchical	Information Processing & Management, Elsevier	61		2024	Q1

	Pitman Yor Process					
Iyer, K.V., Seshadri, Karthick and Srinivasulu, K.	An Advancement in Huffman Coding With a Potential for Parallel Decoding	Concurrency Computation Practice and Experience, Wiley	37	e70096	2025	Q2
Zhang, Fan; Seshadri, Karthick; Pattupogula, Vara Prasad Devi; Badrinath, Chandana; Liu, Shichao;	Visitors' satisfaction towards indoor environmental quality in Australian hotels and serviced apartments	Building and Environment, Elsevier	244		2023	Q1
Ramakrishnan, Jegan; Seshadri, Karthick; Liu, Tingting; Zhang, Fan; Yu, Rongrong; Gou, Zhonghua	Explainable semi-supervised AI for green performance evaluation of airport buildings	Journal of Building Engineering, Elsevier	79		2023	Q1
Ramakrishnan, Jegan; Liu, Tingting; Zhang, Fan; Seshadri, Karthick; Yu, Rongrong; Gou, Zhonghua;	A decision tree-based modeling approach for evaluating the green performance of airport buildings	Environmental Impact Assessment Review, Elsevier	100		2023	Q1
Fan Zhang, Karthick Seshadri, Shichao Liu, Matthaios Santamouris	The impact of indoor environmental quality on tourist accommodation ratings using guest reviews	Building and Environment, Elsevier	280	113135	2025	Q1
Seshadri, Karthick; Iyer, K	Parallelization of a dynamic SVD clustering	Software: Practice and Experience,	40	883-896	2010	Q2

Viswanathan;	algorithm and its application in information retrieval	Wiley				
Seshadri, Karthick; Shalinie, S Mercy;	Parallelization of a graph-cut based algorithm for hierarchical clustering of web documents	Concurrency and Computation: Practice and Experience, Wiley	27	5156-5176	2015	Q2
Seshadri, Karthick; Iyer, K Viswanathan;	Design and evaluation of a parallel document clustering algorithm based on hierarchical latent semantic analysis	Concurrency and Computation: Practice and Experience, Wiley	31	e5094	2019	Q2
Seshadri, Karthick; S. Mercy, Shalinie; Manohar, Sidharth;	A distributed parallel algorithm for inferring hierarchical groups from large-scale text corpuses	Concurrency and Computation: Practice and Experience, Wiley	30	e4404	2018	Q2
Seshadri, Karthick; Shalinie, S Mercy; Kollengode, Chidambaram;	Design and evaluation of a parallel algorithm for inferring topic hierarchies	Information Processing & Management, Elsevier	51	662-676	2015	Q1
Seshadri, Karthick; Maruthappan, Aswin; Sundar Raman, Mukunthapriya	A scalable parallel algorithm for building web directories	Concurrency and Computation: Practice and Experience, Wiley	33		2020	Q2
Ramakrishnan, Jegan; Liu, Tingting; Yu, Rongrong; Seshadri, Karthick; Gou, Zhonghua;	Towards greener airports: Development of an assessment framework by leveraging sustainability reports and	Environmental Impact Assessment Review, Elsevier	93		2022	Q1

	rating tools					
Nagarathna Ravi, Vimala Rani P, Rajesh Alias Harinarayan R, Mercy Shalinie S, Karthick Seshadri, Pariventhan P	Deep Learning-based Framework for Smart Sustainable Cities: A Case-study in Protection from Air Pollution	Intelligent Information Technologies	15		2019	-

(C) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Karthick Seshadri, Awismrit Parida, Srinath Devale, Padmil Nayak	Implementation and Evaluation of a Technique to construct Quantum Bayesian Networks	SPARC International Symposium on Quantum Computing and Applications	1-10	Quantum Computing	NIT Rourkela	2026
Appidi Jashwanth Reddy, Mote Vinay Kumar, Karthick Seshadri	Retrieval Augmented Generation Based Explainable Fact-Checking Using Knowledge Graphs	2025 IEEE International Conference on Recent Advances in Computing and Systems	1-6	Computing and Systems	IIIT Gwalior	2026
Adarsh Varshney, Karthick Seshadri and Viswa Kiran Andraju	Assessment of the Knowledge-Infused Policy Gradient Approach for StarCraft	The 10th International Conference on ICT for Intelligent Systems	113-123	Intelligent Systems	Cornell University, New York, USA	2025
Samriddhee Ghosh, Karthick Seshadri, Harikumar Velayutham	Assessment of Multi-Resource Characterization Models to Forecast Cloud Workloads for Sustainable Virtual	International Conference on Energy, Environment, and Green Technology (ICEEGT 2025)		Green Computing	NITTTR Kolkata	2025

	Datacenters					
Sasi Shrilekhya N, Krishna N, Seshadri K	Upper Confidence Bound versus Adaptive Posterior Sampling for Multi-Armed Bandit Game Models	IEEE International Conference on Innovative Trends in IT	1-6	AI and ML	IIIT Kerala	2025
Aswin K, Suhas K, Seshadri K.	Assessment of the Impact of D-Adaptation on Convolutional Image Classification	International Conference on Computer Vision and Image Processing	290-303	Computer Vision	IIIT Kancheepuram	2024
Nayak, P., Seshadri, K.	Evaluation of Hybrid Quantum Approximate Inference Methods on Bayesian Networks	International Conference on Big Data and Artificial Intelligence	135-149	Bid data and AI	IIIT Delhi	2023
Srinath V Devale, Karthick S, Nagesh Bhattu S	A heuristic for minimizing resource requirements for quantum graph neural networks	International Conference on Deep Learning, AI and Robotics	246-255	AI and Robotics	NIT Kurukshetra	2023
S. Ghosh, K. Seshadri and C. Kollengode	Design and Evaluation of Reward Functions for Load Balancing in Cloud Datacenters	5th International Conference on Innovative Trends in Information Technology	1-6	AI	IIIT Kerala	2024
Soni, Rajan Kumar; Seshadri, Karthick; Ravindran, Balaraman;	Representation Learning using Graph Neural Nets: A case-study in HMMs	Graph Embedding and Mining Workshop, European Conference on ML (ECML)	1-9	Machine Learning	Baque Centre for Applied Mathematics, Spain	2021
Zhang, Fan;	Indoor	The 11th		Indoor Air	Japan	2023

Seshadri, Karthick; Pattupogula, Devi Vara Prasad; Chandana, Badrinath; Liu, Shichao;	environmental quality satisfaction in Australian hotels and serviced apartments	International Conference on Indoor Air Quality, Ventilation & Energy Conservation in Buildings		quality		
Ghosh, Samriddhee; Seshadri, Karthick;	A deep neural model to identify rationale behind sentiments in product reviews	International Conference on Computational Intelligence and Analytics	1-7	AI	NIT Raipur	2022
Kammakomati, Mehant; Chowdary, Suryadevara Deepak; Varthya, Srikanth Naik; Seshadri, Karthick;	Anomaly Detection in ATM Vestibules Using Three-Stream Deep Learning Approach	International Conference on Computer Vision and Image Processing	1-12	Computer Vision	VNIT Nagpur	2022
Iyer, VK; Seshadri, K; Mohan, R	Leveraging conventional cs problems for blended learning in algorithms lab: an option for experimental learning	17th International Technology, Education and Development Conference	181-189	Learning Technologies	Valencia, Spain	2023
Viswanathan Iyer, K; Seshadri, Karthick; Ghosh, Samriddhee;	Some Observations on Huffman Trees	Proceedings of the International Conference on Cognitive and Intelligent Computing	345-355	Intelligent Computing	India	2021
M. Pachava, K. Seshadri and C. Kollengode	Assessment of Deep Sequence Models for Characterization and Prediction of Cloud Workloads	IEEE 3rd Global Conference for Advancement in Technology	1-6	IT	India	2022
C. Charupalli	Fine-tuning the	IEEE 5th	419-424	Multimedia	Online	2022

and K. Seshadri	Robust Temporal Feature Magnitude model for enhancing the accuracy of anomaly detection	International Conference on Multimedia Information Processing and Retrieval				
Seshadri, Karthick; Pavana, C; Sindhu, Korrapati; Kollengode, Chidambaran	Unsupervised Modeling of Workloads as an Enabler for Supervised Ensemble-based Prediction of Resource Demands on a Cloud	Advances in Data Computing, Communication and Security	109-120	Computing and Communication	NIT Kurukshetra	2021
KV Iyer, Karthick S	Adoption of virtual laboratories for Computer Science: deterrents, enablers and modalities	International Conference on Education and New Learning Technologies	97-102	Learning Technologies	Valencia, Spain	2021
Soni, Rajan Kumar; Seshadri, Karthick; Ravindran, Balaraman;	Metric Learning for comparison of HMMs using Graph Neural Networks	Asian Conference on Machine Learning	1365-1380	Machine Learning	NUS Singapore	2021
S. Yadavilli VRPS, Karthick Seshadri	A Framework for predicting item ratings based on Aspect Level Sentiment Analysis	International Conference on Advance Computing and Innovative Technologies in Engineering	327-332	Advanced Computing	India	2021
Korrapati Sindhu, Karthick Seshadri	Dimensionality Prediction for Word Embeddings	Applications of Artificial Intelligence in Engineering	301-317	AI	India	2020
Subramanian, R Raja; Seshadri,	Randomized Gossip Algorithm	IEEE International Conference on	1-5	Sustainable Computing	India	2019

Karthick	based RSU Distribution for VANETs leveraging Fog Computing	Clean Energy and Energy Efficient Electronics Circuit for Sustainable Development				
Subramanian, R Raja; Seshadri, Karthick;	Design and Evaluation of a Hybrid Hierarchical Feature Tree Based Authorship Inference Technique	Smart Secure Systems–IoT and Analytics Perspective	89-104	Data Analytics	India	2018
Karthick S, SM Shalinie	Parallel algorithms for merging topic trees and their applications in meta-search engines	Proceedings of the second IKDD Conference on Data Sciences	114-115	Data Science	Bangalore	2015
Karthick S, Mukuntha Priya SR, SM Shalinie	A sparsification technique for faster hierarchical community detection in social networks	International Conference on Eco-friendly computing and communication systems	29-34	Sustainable Computing	NIT Surathkal	2014
Karthick S, Shalinie SM, AR Eswari Meena, P. Madumitha, Naga Abhinaya	Effect of multi-word features on hierarchical clustering of web documents	International Conference on Recent Trends in IT	1-6	IT	Anna University	2014
Karthick S, SM Shalinie, S. Uma Bharathi, S. Kavya Saroja	Parallel hierarchical subspace clustering for segmenting large text corpuses	International IEEE Conference on trends in Electronics and Informatics	1-6	Informatics	India	2017

(D) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
KV Iyer and Karthick S	A Book entitled "Discrete Mathematics with Applications"	Cengage	2022	9353503175
Karthick S	A chapter entitled "Parallel hierarchical clustering of big text corpora" in "Handbook of Big Data Analytics: Applications in ICT, Security and Business Analytics, Volume 2"	IET	2021	978-1-83953-059-3
Upendar Rao R, Karthick S	A Chapter entitled "Word Embedding Techniques for Sentiment Analyzers: A Review" in the Book "New Opportunities for Sentiment Analysis and Information Processing"	IGI	2022	9781799880615
Sastry VRPS, Karthick S	A Chapter entitled "A Survey on Aspect Extraction Approaches for Sentiment Analysis" in the Book "Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance"	IGI	2022	9781799873716
Sindhu K, Karthick S	A Chapter entitled "Text Summarization: A Technical Overview and Research Perspectives" in the Book "Handbook of Intelligent Computing and Optimization for Sustainable Development"	Wiley	2022	978-1-119-79262-8

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