

DR T RAJARETNAM Ph.D.

Associate Professor and Head
Department of Data Science

St. Joseph's College (Autonomous)
Tiruchirappalli.

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Date of Birth 14-05-1962

Academics

M.Sc	1984	Mathematics St. Xavier's College, Palayamkottai
M Phil	1985	Mathematics Madras Christian College, Chennai
PG DCA	1989	Jamal Mohamed College, Tiruchirappalli
M Tech	1994	Quality Assurance Technology Regional Engineering College, Tiruchirappalli Now NIT
Ph D	2006	Bharathidasan University, Tiruchirappalli <i>Thesis: A study on fuzzy finite state automata</i>

Career:

1986-2022 (36 years) Associate Professor and Head
Dept. of Mathematics,
St. Joseph's College, Tiruchirappalli
2022-2024
Head, Dept. of Data Science
Loyola College, Chennai
2024-till date
Head, Dept. of Data Science
St. Joseph's College, Tiruchirappalli.

Research Interest: Automata theory, Theoretical Computer Science.

Research Guide: PhD completed: 7, M Phil: 60 students.

Publication: International - 36

Projects:

- a) A systematic approach to construct a fuzzy automaton for a given regular expression and for a fuzzy regular grammar – UGC MRP - 2 years.
- b) Rajiv Gandhi National Fellowship - 3 years

Taught students of M Sc Computer Science, MCA and ME for 30 years.

Senate member of the Bharathidasan University July 1999 to July 2002

Residence

21 Lakshmi Nagar, Sirangam, Thiruchirapalli-620006

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Publication

- 1) NLC Graph Grammar for Generating Graph Classes. South East Asian J of Mathematics and Mathematical Sciences (2022)
- 2) Some Regular Behaviours of Partial Vol 21 page 79-86 Intuitionistic Fuzzy Automata. South East Asian J of Mathematics and Mathematical Sciences Vol 21page 129-136(2022}
- 3) Algebraic Properties of Max Weighted Finite State Mealy Machines. International J of Information and Computing Science. Vol 6 (1), 2019
- 4) A Study on Plus Weighted Multiset Transformation Semigroups. International J of Information and Computing Science. Vol 6 (1), 2019
- 5) Algebraic Properties of Max Weighted Finite State Mealy Machines. International J of Information and Computing Science. Vol. 6 (1), 2019
- 6) Existence of an Equivalent Deterministic Probabilistic Fuzzy Finite Automaton for a Given Probabilistic Fuzzy Finite Automaton. J of Information and Computational Science. Vol 9 (8), 2019
- 7) Some Properties of Plus Weighted Multiset Grammars. International J of Information and Computing Science. Vol 6 (5), 2019
- 8) Minimal Machines on Max Weighted Finite State Mealy Machines, International J of Information and Computing Science. VOL 6(5), 2019
- 9) Pumping Lemma on Probabilistic Fuzzy Finite Automata and Some Product Operations on Probabilistic Fuzzy Finite Automata. J of Applied Science and Computations. Vol 6 (6), 2019
- 10) Direct Product and Cascade Product of Probabilistic Fuzzy Finite Automata, International J of Management Technology and Engineering. Vol 9 (8), 2019
- 11) Some Energy Relations of the Complete, Complete Bipartite and Complete Tripartite Graphs, International J of Information and Computing Science. 2019

- 12) Some Operations on Multi-Hypergraph Grammar, International J of Applied Engineering Research, Vol 13 (16), 2018
- 13) Some Products on Max Weighted Finite State Automaton, International J of Applied Engineering Research. Vol 13 (22), 2018
- 14) Homomorphism on Max Weighted Finite State Mealy Machine, J of Applied Science and Computations. Vol 5 (7), 2018
- 15) Algebraic Properties of Plus Weighted Finite State Machine. International J of Applied Engineering Research, Vol 13 (21), 2018
- 16) On Regular Properties of Plus Weighted Multiset Finite State Automaton. J of Applied Science and Computations, Vol 5 XII, 2018
- 17) Some Properties of Fuzzy Probabilistic Automata, J of Computer and Mathematical Sciences, Vol 9 (6), 2018
- 18) Intuitionistic Fuzzy Automaton with Unique Membership and Non Membership Transitions. Lecture Notes in Computer Science, Springer. LNCS 10398, 2017
- 19) The Cyclic and Strongly Con-connectedness of the Products of Intuitionistic Fuzzy Mealy Machines. Annals of Fuzzy Mathematics and Application s. Vol 13 (3), 2017
- 20) Plus Weighted Finite State Automata. J of Computer and Mathematical Sciences. Vol 8 (11), 2017
- 21) A Study on Recognizability Max Weighted Finite State Automata. J of Computer and Mathematical Sciences. Vol 8 (11), 2017
- 22) Properties of an Intuitionistic Fuzzy Kernel and an Intuitionistic Fuzzy Sub Semi Automaton. J of Notes on Intuitionistic Fuzzy Sets. Vol 23 (5), 2017
- 23) Cartesian Composition of Intuitionistic Fuzzy Finite Automata with Unique Membership Transition on an Input Symbol. J of Notes on Intuitionistic Fuzzy Sets. Vol 23 (5), 2017
- 24) Generating and Colouring Some Family of Graphs Using Hyper Graph Grammar. International J of Applied Graph Theory. Vol 1 (2), 2017
- 25) Multi--Hyper Graph Grammar. J of Computer and Mathematical Sciences. Vol 8 (12), 2017
- 26) Intuitionistic Fuzzy Lexical Analyzer. Annals of Fuzzy Mathematics and Informatics (AFMI). Vol 13 (4), 2016
- 27) Intuitionistic Fuzzy Lexical Analyzer. Annals of Fuzzy Mathematics and Informatics. Vol 11, 2016
- 28) Recognizability of Intuitionistic Fuzzy Finite Automata-Homomorphic Images. *Proceedings* of the International Conference on World Congress on Computing and Communication Technologies (Wccct-2014), 2014
- 29) Closure Properties of Intuitionistic Fuzzy Finite Automata with Unique Membership Transitions on an Input Symbol. *Proceedings* of the International Conference on Computing and Communication Technologies (Wccct-2014), 2014

- 30) Intuitionistic Fuzzy Finite Automata with Unique Membership Transition. *Proceedings of the International Conference on Computing and Communication Technologies (Wccct-2014)*, 2014
- 31) An Intuitionistic Fuzzy Finite Automaton Homomorphism and Admissible Relation. *International Organization of Scientific Research (IOSR-JM)*. Vol 10, 2014
- 32) Regular Properties of Fuzzy Finite State Automata with Unique Membership Transition on an Input Symbol. *International J of Fuzzy Mathematics and Systems*. Vol 3, 2013
- 33) Some Properties of Fuzzy Finite Tree Automata. *Proceedings of the International Conference on Mathematics in Engineering and Business Management*, 2012
- 34) Deterministic and Complete Fuzzy Tree Automata. *Proceedings of the Heber International Conference on Applications of Mathematics and Statistics*, 2012
- 35) Fuzzy Finite State Automaton with Unique Membership Transition on an Input Symbol. *J of Fuzzy Mathematics* Pp. 1-3 2012.
- 36) Fuzzy Automata and Induced Monoids. *Bul. of Pure & App. Sci.* Vol 24e: 279, 2012.