

**Name:** Dr. R. Catherine Junia

**Designation:** Assistant Professor

**Department:** Computer Science

**Date of Joining:** 05.12.2017

**Phone No:** 9600867900

**Email:** [catherinejunia@americancollege.edu.in](mailto:catherinejunia@americancollege.edu.in), [jucathy@gmail.com](mailto:jucathy@gmail.com)

**ORCID ID:** 0000-0002-2183-8369

**Google Scholar:** <https://scholar.google.com/citations?user=0oL0srYAAAAJ&hl=en>



**Educational Qualification:**

Degree	Subject	College / University & Place	Year Completed
Ph.D	Computer Science	Bharathidasan University, Trichy	July, 2025
M.Phil	Computer Science	PRIST University, Thanjavur.	2011
M.Sc.	Information Technology	Lady Doak College, Madurai.	2009
B.Sc.	Spl.Physics	Lady Doak College, Madurai.	2007

**Specialisation in Teaching:**

- Computer Networks.
- Multimedia.
- Web Technologies.
- Mobile Technologies.
- Network security.
- Animation Technology.
- PC hardware and Trouble shooting.
- Business Intelligence System.
- Audio & Video Editing

**Specialization in Research:**

- Image Processing
- Deep Learning
- Machine Learning

**Research Interests:**

- Data Mining
- Image Processing
- Network Security
- Internet of Things
- Deep learning

**Google Scholar:**

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**List of Publications:**

1. Mrs. R. Catherine Junia and Dr. K. Selvan – “SURVEY ON DEEP LEARNING-BASED CHEST X-RAY IMAGE ANALYSIS FOR COVID-19 DETECTION” published in the Proceedings of International Conference of Innovation and Advances in Inter-disciplinary Research held on 28<sup>th</sup> and 29<sup>th</sup> November 2022, ISBN: 978-93-91535-29-2 and published in the International Journal of Innovative Research in Science and Engineering (IJIRSE), ISSN: 2454-9665. Volume 8, Issue 11, 2022, Pages 46- 57.
2. Mrs. R. Catherine Junia and Dr. K. Selvan - “Deep Learning Based Covid-19 Detection Using Chest X- Ray Images: A Systematic Review”, published in the proceedings of the International Conference on Data Transformation on 20<sup>th</sup>& 21<sup>st</sup> April 2023. ISBN 939299549-0.
3. R. Catherine Junia and Selvan K – “Deep learning-based automatic segmentation of COVID-19 in chest X-ray images using ensemble neural net sentinel algorithm”, Measurement: Sensors, Volume 33, 2024, 101117, ISSN 2665-9174, <https://doi.org/10.1016/j.measen.2024.101117>  
(<https://www.sciencedirect.com/science/article/pii/S266591742400093X>)
4. R. Catherine Junia and Selvan K, “Resolute neuronet: deep learning-based segmentation and classification COVID-19 using chest X-Ray images”, International Journal of System Assurance Engineering and Management, Electronic ISSN: 0976 – 4348, August 2024.
5. R. Catherine Junia and Selvan K, “Hybrid Gradient Descent-tuned Recurrence Net-based Classification of COVID-19 using Chest X-ray images”, Journal of Electrical Systems, Vol. 20 No.10s, ISSN: 1112- 5209, October 2024, Pages 5637-5647.

**Other Work Experience:**

<b>Designation</b>	<b>Institution / Company</b>	<b>Year - From (month/year) To (month/year)</b>
Teacher	H.D.I.Jain Matr.Hr.Sec School, Pasumalai	2009 June to 2010 May
Teacher	M.T.P.K.N Matric School, Pasumalai	2010 June to 2011 April
Teacher	Jeevana ICSE School, Visalakshipuram	2011 May to 2011 November
Assistant Professor	The American College, Madurai	Dec 2017 to Till Date

**Administrative /Academic Position/s (held / currently holding):**

<b>Positions held / currently holding</b>	<b>Year - From (month/year) To month/year)</b>
Admission Work (Member) - Department Level	May 2018 to Till date
Academic Advisor- Department Level	Dec 2017 to Till date
NAAC Working Committee (Member) - Department Level	June 2019 to Till date
Department Association Activity – Organizer & Member	Dec 2017 to Till date
Women’s Forum Committee (Member) – College Level	March 2019 to Till date

**Conference Attended: 5**

<b>S.No</b>	<b>Title of the Program</b>	<b>Title of the paper Presented</b>	<b>Presented / Attended</b>	<b>Name of the institution</b>	<b>Date and Duration (from-to)</b>	<b>Journal Publication Details</b>	<b>Link to article/paper/abstract of the article</b>
1	International conference on Digital transformation	Detection of Mildew disease on crops using Edge Detection Techniques	Attended & Presented	The American college	05.03.2020-06.03.2020	Conference Proceedings. ISBN: 938786529-0	-

2	International Conference on Innovation and Advances in Interdisciplinary Research	Survey on Deep Learning-Based Chest X-Ray Image Analysis for Covid-19 Detection	Attended & Presented	Mewar University, Rajasthan	28.11.2022 - 29.11.2022	International Journal of Innovative Research in Science and Engineering (IJIRSE), ISSN: 2454-9665. Volume 8, Issue 11, 2022, Pages 46- 57.	<a href="http://www.ijirse.com/wp-content/uploads/2022/08/M814.pdf">http://www.ijirse.com/wp-content/uploads/2022/08/M814.pdf</a>
3	International Conference on Recent Advances in Computer Science and Information Technology	-	Attended	ST.Francis De Sales College, Bengaluru	10.03.2023	-	-
4	International Conference on Data Transformation- ICDT' 23	Deep learning-based covid-19 detection using chest X-ray images: a systematic review	Attended & Presented	The American college	20.04.2023 - 21.04.2023	International Conference Abstract Proceedings on Data Transformation. ISBN:978-93-92995-49-1	-
5	International Conference on "Contemporary Trends in Computer Science CTCS-2K24"	A Comprehensive overview of Deep Learning Based COVID-19 Detection Methods Using Chest X- Ray Images	Attended & Presented	J.J.College of Arts and Science, Pudukkottai	01.08.24 & 02.08.24	-	-

### Faculty Development Program Attended:16

S.No	Title of the Program	Name of the institution	Date and Duration (from-to)
1	Software project management using Artificial Intelligence	The American college	14.05.2020 &15.05.2020
2	E learning tools	The American college	16.05.2020 &17.05.2020
3	Bitcoin and Cryptocurrency in Blockchain Technology	Panimalar Institute of Technology	20.06.2020 & 21.06.2020
4	Innovative Teaching – Learning Strategies for modern Pedagogy	AyyaNadarJanakiAmmal College with CTEL	21.9.21- 23.9.21
5	IoT& Applications(Smart Systems)	Electronics and ICT Academy	14.2.22- 25.2.22
6	Auto ML	Lady Doak College	4.3.22
7	“Research Writing & Methodology”	Patrician College of Arts and Science, Chennai	12.7.22 – 19.7.22
8	National Level Faculty Development Programme on Recent Research Convergence in Artificial Intelligence and Internet of Things	Bon Secours College For Women	21.11.2022 - 25.11.2022
9	National Level FDP on NEP 2020	V.V.Vanniaperumal College for Women	09.12.2022 - 14.12.2022
10	National Level FDP on Recent Advancements in Computing Technology	Sri.S. Ramasamy Naidu Memorial College	13.02.2023- 17.02.2023
11	National Level FDP on Artificial Intelligence/Machine learning/Deep Learning	DRK College of Engineering and Technology &Invictus Engineers	20.02.2023 - 24.02.2023
12	FDP on Role of Artificial Intelligence in Power Sector	PSN College of Engineering and Technology	29.05.2023- 02.06.2023
13	International Virtual Faculty Development Programme on” Recent Trends on Research Methodologies, Tools and Techniques.”	Department of Information Technology, KG College of Arts and Science, Coimbatore.	10.07.23 - 15.07.23
14	FDP on “ Full Stack Development”	Department of Computer Science and Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.	11.07.23 - 15.07.23

15	Online Faculty Development Programme on “Research Innovations, Patenting & Quality Publication”	Department of MCA, Fatima College, Madurai.	26.02.24 - 28.02.24
16	Research Development Programme on “AI Integrated Research”	R & D Cell and IPR Cell, Fatima College, Madurai	09.12.24 – 13.12.24

**Workshop Attended: 8**

S.No	Title of the Program	Name of the institution	Date and Duration (from-to)
1	Artificial intelligence and machine learning	Fatima college	26.09.2019
2	Artificial intelligence and future of IT in machine learning Age	Sri Meenakshi Govt Arts College for Women	01.04.2019
3	Emerging Trends 2.0	BIT Institute of Technology in Association with Huddle Rise Academy	7.6.21- 11.6.21
4	Professional Development Programme on Research Writing & Methodology	Patrician College of Arts and Science	12.07.2022 - 19.07.2022
5	Workshop on Basic Computing Skills for Non-Teaching Staff	The American College	21.02.2023
6	Workshop on Art and Science of Methodical Scientific Writing & Publishing in a High Impact Journal	The American College	06.03.2023
7	Online Workshop on “Innovations in Artificial Intelligence and Machine Learning”	Department of Computer Science and Business Systems at Nehru Institute of Engineering and Technology, Coimbatore.	17.08.23 to 18.08.23
8	International Workshop Series on AIDE – Artificial Intelligence	Asia Pacific University UNESCO Chair, Malaysia organized by The American College & CSI JACON	23.11.24 – 26.11.24

**Seminar / Webinar attended: 19**

<b>S.No</b>	<b>Title of the Program</b>	<b>Name of the institution</b>	<b>Date and Duration (from-to)</b>
1	Women at Risk Blossom	The American College, Madurai	09.06.2020
2	Self Awareness and Social Responsibility during COVID 19 Pandemic	The American College, Madurai	13.06.2020
3	Cyber Security Trends in 2020 and Beyond	The American college, Madurai	13.06.2020
4	Defining Research problem in Research Methodology	Panimalar Institute of Technology	17.06.2020
5	Tools for video preparation in E-Content development	Sri Meenakshi Government arts college	18.06.2020
6	An Insight into Nanotechnology”	Government Arts college, Salem	20.06.2020
7	Impact of Covid 19 on Educational services and Alternating Strategies	The American College, Madurai	20.06.2020
8	Introduction to Natural Language Processing Using NLTK	Oriental Institute of Science and Technology, Bhopal	15.5.2021
9	Emerging Trends 2.0	BIT Institute of Technology in Association with Huddle Rise Academy	7.6.21- 11.6.21
10	Online Course on Web Programming	Jey Master Tech, Palani	25.6.21-27.6.21
11	A Pandemic Year for Women: What are we Learning?	The American College, Madurai	30.6.21
12	Promoting Ikigai to Arise and Shine	The American College, Madurai	29.7.21
13	Technological Innovation and Artificial Intelligence	MannarThirumalaiNaicker College with ICT Academy	6.4.22
14	National Level Webinar on “Research and Publication Ethics”	Saveetha College of Liberal Arts and Science, Saveetha institute of Medical and Technical Sciences, Chennai	21.7.22
15	International Webinar on Emerging Trends in Cyber Security	JeyarajAnnapackiam College for Women &Salesian College	20.12.2022

16	Seminar on Quantum Computing	Thiagarajar College of Engineering, Madurai	12.01.2023
17	IP Awareness and Training Program on National Intellectual Property Awareness Mission	The American College, Madurai	20.02.2023
18	ACM Webinar in title of “Chat GPT - A step forward to Conversational Excellence”	Yelagiri Hills ACM Professional Chapter & PG Department of Computer Science, Don Bosco College (Co-Ed) Yelagiri Hills, Tirupattur District	06.07 2023
19	Webinar on “Research Innovations, Patenting and Quality Publication”	Department of MCA, Fatima College, Madurai.	26.02.24 – 28.02.24.

**Other Activities / Academic Credentials:**

- Acted as External Examiner for Practical Examinations held at Fatima College, Madurai.
- Acted as Co-ordinator and Organising Member at the Workshop and various Programs conducted by The Women’s Forum of The American College, Madurai.