

# Bio-Data



- 1. Name (in Block Letters)** : **Dr. RAMAN MAINI**
- 2. Father's Name / Mother's Name** : SH. RACHHPAL MAINI /MRS. NIRMAL MAINI
- 3. Department** : Computer Science and Engineering (CSE)
- 4. Current Designation** : Professor (Computer Engineering)
- 5. Address for Correspondence** : CMO Residence, Punjabi University Campus,  
Punjabi University, Patiala-147002 (Punjab)
- 6. Permanent Address (with Pin code)** : Dhawan Colony, Street No. 6, H. No.  
142, Ferozpur City-152002 (Punjab)
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research\_raman@yahoo.com
- 7. Academic Qualifications (Matric till Post Graduation):**

Examinations	Name of the Board / University	Year of Passing	Percentage of marks obtained	Division / Class/Grade	Subject
High School / Matric	C.B.S.E, New Delhi	1993	79.4%	1 <sup>st</sup>	Science, Mathematics, SS, English, Hindi,
10+2	C.B.S.E, New Delhi	1995	75%	1 <sup>st</sup>	Physics, Chemistry, Mathematics, Hindi, English
B.Tech (Computer Science & Engineering)	Punjab Technical University, Jalandhar	1999	74.72%	1 <sup>st</sup>	Computer Science & Engineering
M.Tech (Computer Science & Engineering)	Punjab Agricultural University, Ludhiana	Feb. 2002	81%	1 <sup>st</sup> with Merit Certificate	Computer Science & Engineering

## 8. Research Degree(s)

Degree	Title	Date of award	University
Ph.D.	Analysis and Development of Image Edge Detection Techniques	15-12-2011	Punjabi University, Patiala

## 9. Work experience:

Designation	Department	Period		Scale of Pay & Experience
		From	To	
Lecturer	Punjabi University, Guru Kashi Campus Talwandi Sabo	21.08.2000	28.07.2005	Rs. 8000-13500
Lecturer	University College of Engineering Punjabi University, Patiala	29.07.2005	14.06.2006	Rs. 8000-13500
Reader	University College of Engineering Punjabi University, Patiala	15.06.2006	14.06.2009	12000-18300
Associate Professor	University College of Engineering Punjabi University, Patiala	15.06.2009	14.06.2012	Rs. 37400-67000 +9000 Grade Pay
Professor	Computer Science & Engineering Department, Punjabi University, Patiala	15.06.2012	Till Date	Rs. 37400-67000 +10000 Grade Pay

10. Period of teaching experience: P.G. Classes (in years): 19 Years

U.G. Classes (in years): 22 years

## 11. Fields of Specialization under the Subject / Discipline

- (a) AI and Data Science      (b) Computer Networks( Cyber Security)      (c) Image Processing      (d) Machine Learning Models

## 12. Academic Staff College Orientation/Refresher Course attended:

S. No.	Name of the Course	Org./Institute	Duration	Schedule
1	STC- Neural Networks, Fuzzy Logic and their Applications	T.T.T.I. Chandigarh	1 Week	09.03.2009-13.03.2009
2	Advancements in Image Processing	T.T.T.I. Chandigarh	1 Week	25.05.2009-31.05.2009
3.	U.G.C. General Orientation Program	Academic Staff College, Guru Nanak Dev University Amritsar	4 Weeks	29.11.2002-26.12.2002
4.	U.G.C. Refresher Course on Computer Science	Academic Staff College, Punjab University, Chandigarh	3 Weeks	10.12.2005-30.12.2005
5	STC-Internet of Things	T.T.T.I. Chandigarh at Punjabi University Patiala	1 week	23-09-19 - 27-09-19
6	STC-Cyber Security	T.T.T.I. Chandigarh at Punjabi University	1 week	09-12-2019 - 13-12-2019

		Patiala		
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### 13. M.Tech Thesis

**Topic:-**Design and Development of Management Information System for Crop Improvement and Seed Production Technologies

### 14. Ph. D. Topic: Analysis and Development of Image Edge Detection Techniques

**Areas of Specialization for Ph.D Research**

- (a) AI and Data Science (b) Computer Networks( Cyber Security) (c) Image Processing (d) Machine Learning Models (e) NLP

15. Subjects Taught at Graduation Level:Programming in C/C++,Operating System, Computer Networks, Database, Management Systems, Computer Graphics, Design Algorithms & Analysis, Soft Computing, Microprocessors & Assembly Language Programming and Data Structures

16. Subjects Taught at Postgraduate Level: Digital Image Processing, Neural Networks & Fuzzy Logic, Soft Computing and Advanced Computer Architecture, Machine Learning, Design Principles of Operating System

### 17.Major Job Responsibilities till date :

S.No.	Major Job Responsibilities	
1	Teaching	
2	Research & Development	
3	Head of Department ( From 12/9/2019 to 11/9/2022)	
4	Member Academic Council Punjabi University(2/12/2021 to 26/7/2022)	
5	Member Internal Quality Assurance Cell Punjabi University Patiala from 01.07.22 to 30.06.24	
6	Chairman of Board of Studies of Computer Science and Engineering at Punjabi University Patiala (From September 2019 to September 2022)	
7	Member Board of Studies of Computer Science and Engineering at Punjabi University Patiala since 2006	
8	Member of Selection Committees appointed by the Honorable Vice Chancellor	

9	<b>Member of Inspection Committees</b> appointed by the Honorable Vice Chancellor	
10	<b>Chairman of Administrative and Academic committee</b> of CSE Department from 2019 to 2022 and Member of ACD for 16 years	
11	<b>Member Board of Post Graduate Studies and research</b> Faculty of Engineering and Technology since 2006	
13	<b>Member of Board of Studies</b> for Department of Computer Science & Engineering, SBSSTC Ferozepur from AY 2015-2019	
14	<b>Member of Board of Studies</b> for Department of Computer Science & Engineering, M. M. Engineering College Maharishi Markandeshwar University, Mullana, Ambala from AY 2014-2016.	
15	<b>Member of Undergraduate Board of Studies</b> of the Computer Science Department for the years 2020-2021, 2021-2022 and 2022-2023 <b>at Mata Gujri College Fatehgarh sahib.</b>	
16	<b>Member of Board of Studies</b> for Department of Computer Science & Engineering at RIMT University Mandi Gobindgarh Punjab(India) for the years 2020-21, 2021-22, 2022-2023.	
17	<b>Expert on the Faculty of Computing Sciences nominated by the Honorable Vice Chancellor</b> for the term from 11.01.203 to 10.1.2025.	
18	<b>Member of the committee for developing Unified Portal for the Department of Higher Education and Languages</b>	
19	<b>Established Departmental Library</b> in Department of Computer Science and Engineering	
20	<b>Responsibility as Coordinator and Co-coordinator</b> of B.Tech and M.Tech(CSE) Admissions of Engineering Departments in 2020, 2021,2022	
21	<b>Member of the University Website Committee</b> constituted by the Honorable Vice-Chancellor	
22	<b>Member of Punjabi University E-office Committee</b> constituted by the Honorable Vice chancellor	

23	<b>Established ACM students chapter and Oracle Academy</b> at Department of computer science and engineering Punjabi University Patiala	
24	<b>Established Institution of Engineers (India) Students Chapter</b> at Department of computer science and engineering Punjabi University Patiala	
25	<b>Established NPTEL Local chapter</b> in Department of computer science and engineering Punjabi University Patiala	
26	<b>Designing the Curriculum of B.Tech(CSE), M.Tech(CSE)</b> since 2005.	
27	<b>Established State of the art Conference Room</b> in department of Computer Science & Engineering	
28	<b>Established the Full-Fledged 4 Computer Labs</b> at UCoE, Punjabi University, Patiala.	
29	Member of Fee Concession Committee for B.Tech and M.Tech. since 2005 and 2010 respectively	
30	Counseling and Admission Committee member for 18 years	
31	<b>Editor and Reviewer</b> of Many International Journals of Repute	
32	University Examination duties like Answer Books evaluator, Invigilator, Deputy Superintendent. Superintendent, Observer/ Member of Flying Squad Team and Practical Examiner	
33	<b>Member Institutional Co-curricular activities</b> for students such as field studies/educational tours, industry-implant training and placement activity since 2006.	
34	<b>Member Students and Staff Related Socio Cultural and Sports Programmes,</b> Campus Publications <b>since 2005</b>	
35	<b>Member Board of PostGraduate studies and Research (BPSAR)</b> Faculty of computing sciences Punjabi University Patiala from 1/8/2017 to 31/7/2019	
36	Member Academic Audit Committee Faculty of Engineering and Technology , 2017	

## 18. Patents:-

S.No	Application No.	Title of the Invention	Publication Date(Granted)
1	202111031883 A	System and Methods of Monitoring and preventing the spread of infectious virus	30/7/2021(official journal of The Patent Office)

19. Ph. D students guided/ registered: **Appendix-I**
20. M. Tech Dissertations guided: **Appendix-II**
21. Conferences/ Seminars/Workshops/FDPs organized: **Appendix-III**
22. Sessions Chaired/Expert Talks: **Appendix-IV**
23. Members of Professional Bodies/ Board of Studies/Editorial Board Member of Journals/Advisory Committee : **Appendix-V**
24. Journal Publications: **Appendix-VI**
25. Conference Proceedings Publications: **Appendix-VII**
26. Books/Book Chapters Published: **Appendix-VIII**
27. Conferences/Seminars paper presented and attended: **Appendix-IX**
28. FDPs/Workshops attended: (Refer **Appendix-X**)
29. awards and Patents (Refer **Appendix-XII**)
30. Other Relevant Information(Refer **Appendix-XIII**)

## Appendix-I

### Ph. D students guided/ registered:

S.no	Name of the Student	Title of thesis	Registration No	Status
1	Ms. Harpreet Kaur	“Analysis and Detection of Code Clones to Support Refactoring for Software Improvement”,	7141-12-1106	Degree Awarded( August 2019)
2	Mr. Rajeev Goel	“Development of Soft Computing based Technique for Optimized Vehicle Routing Problem”,	7141-13-1107	Degree Awarded( May 2019)

3	Mr. Jasvir Singh	“Development of Congestion Aware Routing Technique in Opportunistic Wireless Networks”,	7141-12-1106	(Status: Degree Awarded ,March 2021)
4	Mr. Balwinder Singh	“Gurmukhi script identification and recognition from natural scene word images”,	PU(P)99-224	(Status: Degree Awarded, June 2021)
5	Mrs. Rupinder Kaur	“Development of Leukemia Detection Technique from Blood Cell”,	7141-12-1107	(Status:- Degree Awarded, August 2022)
6	Mr. Ishpreet Singh Virk	“Development of Prostate Cancer Detection Approach for Medical Images Using Soft Computing Techniques”,	UCE(P)103-2005	<b>Status:- Thesis Submitted</b>
7	Mr. Mandeep Singh	Development of Short-Term Electricity Demand Forecasting Technique for Industry in Punjab Region”		(Status: Registered)
8	Mr. Kuldeep Singh	Development of Network Intrusion Detection Technique using artificial Immune System	(Regd. No. YCE (TS) 2008-12	<b>Status:- Thesis Submitted</b>
9	Mrs. Savita Wadhwa	“Development of an Efficient Technique for Cardiac Disease Prediction”		<b>Status:- Thesis Submitted</b>
10	Mrs Ravneet Kaur	“Development Of An Approach For Crop Yield Estimation And Change Detection Using Machine Learning”		<b>Status :- Registered</b>
11	Mrs Chinu Singla	Development of a Technique for age , gender and handedness prediction from offline handwritten gurmukhi text	UCE(P)2010-23	<b>Status :- Registered</b>

## Appendix-II

### M. Tech Dissertations guided

S. No	Title of Thesis	Name of The Student	Year of Completion
1	INDUCTION RULES FOR PROJECT ASSIGN PREDICTION USING ID3 ALGORITHM	Ashu Singla	2011
2	PREDICTION MODEL OF NETWORK IN A COLOCATED DOMAIN NAME SYSTEM	Simar Preet Singh	2011
3	ANALYSIS OF OBJECT-ORIENTED DESIGN OF SOFTWARE	Suruchi Mehra	2011
4	IMPROVING SECURITY AND REDUCING EFFECT OF ATTACKS ON WATERMARKS USING BINARY OPERATORS	Jaspreet Kaur	2011
5	MEASUREMENT AND ANALYSIS OF PARAMETERS AFFECTING DATA ACQUISITION IN WIRELESS SENSORS NETWORKS	Rajveer Kaur	2012
6	FINGERPRINT ENHANCEMENT AND RECOGNITION USING MINUTIAE POINTS	Ishpreet Singh Virk	2012
7	NATURAL IMAGE COMPRESSION TECHNIQUE USING FRACTALS	Sneha Chhabra	2012
8	BACTERIA FORAGING OPTIMIZATION BASED MULTITHRESHOLDING EDGE DETECTION TECHNIQUE	Poonamdeep Kaur	2013
9	PERFORMANCE ANALYSIS OF OTSU'S THRESHOLDING AND COLOR BASED REGION SPLIT & MERGER TECHNIQUES FOR BRAIN TUMOR EXTRACTION	Sheenam Bansal	2013
10	DEVELOPMENT OF NEW PAGE RANKING SEARCH ENGINE OPTIMIZATION TECHNIQUE IN SPECIFIC SEARCH ENGINE	Tanvir Singh	2013
11	COMPARATIVE ANALYSIS OF DETECTION OF FLOODING AND JAMMING ATTACKS IN WIRELESS SENSOR NETWORKS	Shikha Jindal	2014



12	IMPLEMENTATION OF BARCODE LOCALIZATION USING MORPHOLOGICAL OPERATIONS	Savreet Kaur	2014
13	A HYBRID APPROACH FOR RELEVANT INFORMATION RETRIEVAL FROM WEB PAGES	Harleen Kaur	2014
14	COMPARATIVE ANALYSIS OF IMAGE STEGANOGRAPHY TECHNIQUES BASED ON NEURAL NETWORK AND SUPPORT VECTOR MACHINE	Jagpreet Kaur	2015
15	IMPLEMENTATION OF ENERGY EFFICIENCY ALGORITHM IN CLOUD DATACENTERS	Kritika Sharma	2015
16	A COMPARATIVE ANALYSIS OF DIFFERENT CODE CLONE TECHNIQUES USING TOOLS	Kuldip Kaur	2016
17	IMPLEMENTATION OF BLACK HOLE NODE DETECTION USING INTRUSION DETECTION SYSTEM	Gurpreet Singh	2016
18	SECURE HYBRID TECHNIQUE FOR IMAGE STEGANOGRAPHY	Kirandeep	2016
19	IMPLEMENTATION OF K-MEANS CLUSTERING ALGORITHM TO ANALYZE THE USER INTEREST BY ANALYZING THE UNIVERSITY WEB LOG SERVERS	Anmol Kaur	2017
20	DYNAMIC QOS FOR HEALTHCARE DATA PRIORITIZATION USING CLOUD ORIENTED INTERNET OF THINGS	Neetu	2017
21	IMPLEMENTATION OF DIFFIE-HELMENMAN AND RSA ASYMMETRIC ALGORITHM FOR AUTHENTICATION OF WIRELESS SENSOR NETWORKS	Anupama Khatak	2017
22	THRESHOLD BASED DYNAMIC RESOURCE ALLOCATION USING VIRTUAL MACHINES IN AMAZON AWS	Amandeep Kaur	2018
23	ACADEMIC PERFORMANCE PREDICTION USING CLASSIFICATION TECHNIQUES	Aikjot Kaur Narula	2018
24	PREDICTION OF DIABETES USING ENHANCED BORUTA BASED TECHNIQUE	Amanpreet Kaur (11791023)	2019
25	AUTOMATIC NUMBER PLATE RECOGNITION SYSTEM USING CONNECTED COMPONENT ANALYSIS AND CONVOLUTION NEURAL NETWORK	Sneh Kanwar Singh Sidhu (11891003)	2020

26	COMPARATIVE ANALYSIS OF VARIOUS ROUTING TECHNIQUES IN WIRELESS SENSOR NETWORKS	Prabhjot Kaur(Regd. No. 71-41-19-622)	2022
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## Appendix-III

### Conferences/ Seminars/Workshops/FDPs organized

#### Conference Organized

1. **Chair** for International Conference on “Recent Trends in Computing (ICRTC’ 16)” held at Punjabi University, Patiala on **30<sup>th</sup> to 31<sup>st</sup> August 2016**.
2. **Convener** for **International Conference on Applications of AI and Machine Learning**(ICAML-2020) held at Department of Computer Science & Engineering, Punjabi University, Patiala on 21<sup>st</sup> to 22<sup>nd</sup> May 2020. (Online Mode).
3. **Convener** for **International Conference on Applications of AI and Machine Learning**(ICAML-2021) held at Department of Computer Science & Engineering, Punjabi University, Patiala on 2-3 Dec 2021.
4. **Seminar Chair** “ **Role of AI and automation in Modern age agriculture**”, held at Department of Computer Science & Engineering, Punjabi University, Patiala on 12 July 2022
5. **Member “Program Committee”**for **IEEE** Sponsored “**Conference on Innovative Technologies in Intelligent Systems & Industrial Applications**” (CITISIA) held during 25<sup>th</sup> to 27<sup>th</sup> November 2020 at Sydney, Australia(online Mode)

#### FDP Organized

1. **Convener** for Organizing One Week Faculty Development Programme (FDP) on the topic “**Internet of Things (IoT)**” held from **23<sup>rd</sup>to 27<sup>th</sup> September 2019** at Department of CSE, Punjabi University, Patiala.
2. **Convener** for Organizing One Week Faculty Development Programme (FDP) on the topic “**Cyber Security and Forensic**” held from **9<sup>th</sup> to 13<sup>th</sup>December 2019** at Department of CSE, Punjabi University, Patiala.
3. **Convener** for Organizing Two Weeks Faculty Development Programme (FDP) on the topic “**Cyber Threat Detection and Safety** ” held from **4<sup>th</sup> to 15<sup>th</sup> January 2016** at

### **Workshop/Expert Lecture/Competition for Faculty and Students Organized and Convened**

1. **Convener** for Organizing Two Days Workshop on the Topic ``**Drone Designing and Simulation**”held during **12<sup>th</sup> to 13<sup>th</sup> February 2020** Organized by Department of CSE, Punjabi University, Patiala.
2. **Convener** for Organizing One Day Workshop on the Topic “**essentials of NBA**” held on **28<sup>th</sup> November 2019** Organized by Department of CSE, Punjabi University, Patiala.
3. Organized and **Convened “Interactive Alumni Talk”** dated **02-07-2020**by Alumni from SAP Labs for 2020 and 2021 pass out batch students
4. Organized Expert Talk dated 14-01-2021 on “**Data Science**” as **convener**
5. Organized Expert Talk dated 18-03-2021 on “**Machine Learning Demystified**” as **convener**
6. Organized Expert Talk dated 18-12-2020 on “**Cyber Security**” as **convener**
7. Organized Expert Talk dated 8-03-2021 on “**How to perform Systematic Literature Review**” as **convener**
8. Organized Expert Talk dated 17-05-02021 on “**Stress Management during covid-19 pandemic**” as **convener**
9. Organized “**online Mock placement test**” for B.Tech CSE students as **convener** dated 29-04-2021
10. Organized Expert Talk dated 06-04-2021on “**Machine Learning in Remote sensing Applications**” as **convener**
11. Organized “**Online orientation Programme**” dated 9-11-2020 for B.tech Ist year students 2020 batch as **convener**
12. Organized “**Coding and Gaming Vibes**” Competition for B.Tech CSE students dated 20-21 October 2020 as **convener**
13. Organized “**Pre-placement Aptitude Test**” dated 29-04-2020 for all B.Tech students as **convener**
14. Organized “**online coding competition**” for B.Tech. CSE students dated 25-04-2020 as **convener**
15. Organized Expert Talk on “**Designing Conversational Agents for Programmers**” on 1-11-2021 for the B.Tech and M.Tech students under online technical lecture series.
16. Organized a technical event “**TECHTONIC ‘22**” on 12 April, 2022 comprising a technical quiz competition, a debugging competition and a mobile app competition.

## **Appendix-IV**

# Keynote Speaker/Sessions Chaired/Expert Talks

## Keynote Speaker

1. **Keynote Speaker in** International conference on Eco Sensitive Developments in Science and Technology(ESDST-2017) organized by Baba Banda Singh Bahadur Engineering College on , January 20,2017
- 2.

## Sessions Chaired

1. Chaired a Technical Session of **TEQIP-II Sponsored** National Conference on “**Communication, Computing & Systems (NCCCS-2015)**” held during **24<sup>th</sup> to 25<sup>th</sup> August 2015** at Shaheed Bhagat Singh State Technical Campus (SBSSTC), Ferozepur, Punjab.
2. **Co-Chair** Technical Session of Conference Organized by **Department of Computer Science & Engineering**, Punjabi University, Patiala held during 2016.
3. **Chaired** a Technical Session in **National Conference on “Emerging Trends in Web Computing”** organized by the **Guru Nanak Girls College, Yamuna Nagar on 29-30th October, 2010 at Guru Nanak Girls College, Yamuna Nagar**
4. Chaired a Technical Session in National Conference on “**Emerging Trends in Computer Science & Information Technology (ETCSIT-2016)**” Organized by Department of Computer Science and Engineering, IET Baddal Technical Campus - on **23<sup>rd</sup> and 24th September, 2016**.
5. **Chaired a Technical session in** *International Conference on Applications of AI & Machine Learning (ICAML-2020)*, Organized by Department of Computer Science & Engineering, Punjabi University, Patiala, India, May 21-22, 2020
6. **Session Chairperson in** International conference on Eco Sensitive Developments in Science and Technology(ESDST-2017) organized by Baba Banda Singh Bahadur Engineering College held on , January 20,2017

## Expert Talks

1. Expert Talk on the topic “**Cyber Intelligence and Forensics**” on 24 th February, 2017 in 2-days national workshop on Cyber Intelligence and Forensics under the Aegis of BBSBEC ACM Student Chapter held on 23-24 th February, 2017 at Department of CSE Baba Banda Singh Bahadur Institute of Engineering College Fatehgarh Sahib
2. Expert Talk on topic “**Recent Trends in Storage Technologies**” organized by the department of **Computer Science & Engineering, Guru Nanak Girls College, Yamuna Nagar on 29-30<sup>th</sup> October, 2010**.

3. Expert Talk on topic “**New Data Storage Technique**” organized by the department of **Computer Science & Engineering, Baba Farid College, Muktsar Road, Deon, Bathinda** on **5<sup>th</sup> March 2011**
4. .Expert Talk on “**Recent Trends in Storage Technologies**”held at Department of Computer Science and Engineering, CGC-College of Engineering, Mohali, Punjab on **8<sup>th</sup> February 2016.**
5. Expert Talk on “**Digital Image Processing**” held at Department of Computer Science and Engineering, Baba Banda Singh Bahadur Engineering College (BBSBEC), Fatehgarh Sahib, Punjab on **14<sup>th</sup>March 2015.**
6. Expert Talk on “**Choosing the Right Storage Technology for your Organization ”** in National Conference on “Emerging Trends in Computer Science & Information Technology (ETCSIT-2016)” on **23<sup>rd</sup> and 24th September, 2016.**
7. Expert Talk at Department of Computer Science and Engineering, CGC-College of Engineering, Mohali, Punjab on **26<sup>th</sup> October 2017.**
8. **Expert Talk on “ Storage Techniques “** on **12 Feb 2016 at Gurukul Vidyapeeth institute of Engineering and Technology Banur**

## **Appendix-V**

### **Members of Professional Bodies/ Board of Studies/Editorial Board Member of Journals/Advisory Committee/**

#### **Member of Various Professional Bodies**

1. **Fellow** of the **Institution of Engineers (India)**, Membership No. **F-1261055 w.e.f. 30.11.2019.**
2. **Life Member** of **Indian Society of Technical Education (ISTE)**, Membership No. 33222
3. **Life Member** of **Institution of Electronics and Telecommunication Engineers (IETE)**, Membership No. AM150551
4. **Member** of **International Association of Engineers (IAENG)**, Hong Kong, Membership No. 104324

5. **Member of International Association of Computer Science and Information Technology (IACSIT), Singapore, Membership No. 80343571**
6. **Life Member of Punjab Academy of Science, Membership No. L-1225**

### **Member of Board of Studies of various University/colleges**

1. **Chairman Board of Studies** Department of Computer Science & Engineering Punjabi University Patiala Since 12 Sept, 2019
2. **Member of Board of Studies** for Department of Computer Science & Engineering Punjabi University Patiala Since 16 June, 2006
3. **Member of Board of Studies** for Department of Computer Science & Engineering, SBSSTC Ferozepur from AY 2015-2019
4. **Member of Board of Studies** for Department of Computer Science & Engineering, M. M. Engineering College Maharishi Markandeshwar University, Mullana, Ambala from AY 2014-2016.
5. **Member of Undergraduate Board of Studies** of the Computer Science Department for the years 2020-2021, 2021-2022 and 2022-2023 at Mata Gujri College Fatehgarh sahib.
6. **Member of Board of Studies** for Department of Computer Science & Engineering at RIMT University Mandi Gobindgarh Punjab(India) for the years 2020-21, 2021-22, 2022-2023.

### **Member of Editorial Board (Journal)**

1. **Editorial Board Member of International Journal of Interactive Multimedia and Artificial Intelligence**(ISSN:1989-1660)
2. **Editorial Board Member of International Journal of IT & Knowledge Management**(ISSN: 0973-4414)
3. **Editorial Board Member of Journal of Emerging Technologies in Web Intelligence (JETWI)** (ISSN 1798-0461)
4. **Editorial Board Member of Journal of Computing**(eISSN: 2151-9617 (registered with the Library of Congress)
5. **Editorial Board Member of International Journal of Computational Intelligence and Information Security (IJCIIS)**(ISSN:1837-7823)
6. **Editorial Board Member of International Journal of Advanced Computer Engineering**
7. **Editorial Board Member of Signal & Image Processing: An International Journal (SIPIJ)**(ISSN:0976-710x(Online);(2229-3922)(Print)
8. **Member of the Technical Review Committee of International Journal of Computer Science and Information Security (IJCSIS)**(ISSN: 1947-5500)
9. **Member of the Reviewing Committee of International Journal of Computer Science Issues**

(IJCSI)(ISSN Online: 1694-0814)

10. **Member of the Reviewing Committee** of Journal of Advances in Information Technology (JAIT)(ISSN: 1798-2340)
11. **Member of the Reviewing Committee** of **Research Cell: An International Journal of Engineering Sciences** (ISSN: 2229-6913).
12. **Guest Editor** of the Special issue of the **Journal Research Cell: An International. Journal of Engineering Sciences**, RACS 2011.

### **Advisory Committee (National and International Conferences)**

1. **Member “Advisory Committee”** for International Conference on **“Innovation & Technology in Computer Science & Applications”** held during **26<sup>th</sup> to 27<sup>th</sup> June 2014**, at DAVIET, Jalandhar, Punjab.
2. **Member “Advisory Committee”** for International Conference on **“Trends in Science & Engineering” (ICTSE)** held during **14<sup>th</sup> to 15<sup>th</sup> June, 2019** at Gulzar Group of Institutes (GGI), Khanna, Punjab, India.
3. **Member National Advisory Committee for** International Conference on **“Electronics & Communication, Renewable Energy and IOTs-Vision 2040”** on **7<sup>th</sup> to 8<sup>th</sup> September, 2019** at IE (I) Engineers Bhawan, Chandigarh.
4. **Member technical Committee in 36<sup>th</sup> “National Convention of Electronics Telecommunication Engineers and National Seminar on Antenna Design for efficient Communication and networking”** held under the aegis of Electronics and TeleCommunication Engineering division board of institution of Engineers(India) at Bathinda local center Bathinda on **4<sup>th</sup> to 5<sup>th</sup> December 2021**,
5. Member of Programme Committee in *International Conference on Applications of AI & Machine Learning (ICAML-2021)*, Organized by Department of Computer Science & Engineering, Punjabi University, Patiala, India, Dec 2-3 , 2021

## **Appendix-VI**

### **Journal Publications**

#### **AY 2009-10**

1. **Raman Maini** and Himanshu Aggarwal (2010) “Image Structure Preserving Noise Reduction Technique” *International Journal of Computational Intelligence Research*, Print ISSN : 0973-1873, Online ISSN : 0974-1259, Vol. 6, no. 1, pp. 117-125
2. **Raman Maini** and Himanshu Aggarwal (2010) “A Novel Technique for Speckle Noise Reduction on Medical Images” *International Journal of Applied Engineering Research*, ISSN 0973-4562, Vol. 5, Issue 1, pp.1-8.

3. **Raman Maini** and Himanshu Aggarwal (2010) “A comprehensive review of image enhancement techniques”*Journal of Computing*, ISSN 2151-9617, Vol. 2, No.3, pp. 8-13
4. **Raman Maini** and Himanshu Aggarwal (2009) “Performance evaluation of various speckle noise reduction filters on medical images” *International Journal of Recent Trends in Engineering*, Vol. 2, Issue 4, p.22.
5. **Raman Maini** and Himanshu Aggarwal (2010) “Analyzing Roberts Edge Detector for Digital Images Corrupted with Noise”*International Journal of Computer and Network Security(IJCNS)*, ISSN-2076-2739,Vol. 2, No. 1,pp. 35-40.

#### **AY 2010-11**

6. **Raman Maini**, Simar Preet Singh and Suruchi Mehra (2010) “Comparison of Image restoration techniques”*International Journal of Information Sciences and Application*, ISSN: 0974-2255, Special Issue of ICTIS’10, Vol. 2, No. 2, pp. 377-381.
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87. **Savita Wadhawan and Raman Maini,**” EBPSO: Enhanced binary particle swarm optimization for cardiac disease classification with feature selection”, *Expert Systems Wiley (SCIE Impact factor 2.587)*
88. **Rupinder Kaur Sandhu and Raman maini,**" Detection of acute Leukemia using segmentation and classification algorithm," *Design Engineering* pp. 4513-4534 volume 21 issue 7
89. **K. Singh, L.Kaur & Raman Maini, R.,**” A survey of intrusion detection techniques based on negative selection algorithm”, *Int J Syst Assur Eng Manag* 13 (Suppl 1), 175–185 (March 2022). ( **Scopus Indexed) Springer**
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90. Savita Wadhawan and Raman Maini., " ETCD: An effective machine learning based technique for cardiac disease prediction with optimal feature subset selection, [Knowledge-Based Systems](#), Vol 255, 14 November 2022.(**Scopus, SCI , Impact Factor 8.139**)
91. **Ravneet Kaur, , Reet Kamal Tiwari, Raman Maini, and Sartajvir Singh,**”A Framework for Crop Yield Estimation and Change Detection Using Image Fusion of Microwave and Optical Satellite Dataset" *Quaternary* 6, no. 2: 28. <https://doi.org/10.3390/quat6020028>, April 2023

## Appendix-VII

### Conference Proceedings Publications

#### AY 2010-11

1. Simar Preet Singh and **Raman Maini**“WIMAX Fourth Generation of Wireless Technology” *Proc. of International Conference on Emerging Trends in Computer Science and Information Technology* held at Gulzar Group of Institutes, Khanna, Ludhiana, pp. 125-129, 26th Feb. 2011.
2. Rajveer Kaur and **Raman Maini**“Study of Various Issues of Network Simulator” *Proc. of International Conference on Emerging Trends in Computer Science and Information Technology* held at Gulzar Group of Institutes, Khanna, Ludhiana, pp. 145-149, 26th Feb. 2011.
3. **Raman Maini** and Suruchi Mehra“Comparative analysis of Different Images Corrupted with Different types of Noise”*Proc. of International Conference on Emerging Trends in Computer Science*

*and Information Technology* held at Gulzar Group of Institutes, Khanna, Ludhiana, pp. 217-221, 26<sup>th</sup> Feb. 2011.

4. Jaspreet Kaur, Anu Sharma and **Raman Maini**“An overview of Image Segmentation in Noisy Environment”,Proc. of 7<sup>th</sup> *International Conference on Upcoming Trends in IT*, held at Punjab College of Technical Education, Baddowal, Ludhiana, pp. 19-20, 26th March, 2011.
5. Simar Preet Singh and **Raman Maini**“DNS Cache Poisoning Attacks and Remedies” Proc. of 1<sup>st</sup> *National Conference on Engineering Applications* held at St. Soldier Group on Institutions, Jalandhar, pp. 247-252, 9th April, 2011.
6. Simar Preet Singh and **Raman Maini**“Internet Security- Bridge to Prevent Cyber Crime” Proc. of *National Workshop-cum-ConfSciences, Recent trends in Mathematics and Computing* held at The Technological Institute of Textile & Sciences, Bhiwani, Haryana, pp.333-336, May 21,2011
7. Simar Preet Singh and **Raman Maini**“Spoofing Attacks of Domain Name System” Proc. of *National Workshop-cum-Conference on Recent trends in Mathematics and Computing* held at The Technological Institute of Textile & Sciences, Bhiwani, Haryana, pp. 337-342,May 21,2011.
8. Simar Preet Singh and **Raman Maini**“Review of Domain Name System” Proc. of *National Workshop-cum-Conference onRecent trends in Mathematics and Computing* held at The Technological Institute of Textile & Sciences, Bhiwani, Haryana, pp. 343-346, May 21,2011

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9. Rajveer Kaur and **Raman Maini**“Energy Efficient Data Acquisition Techniques for Wireless Sensor Networks” Proc. of *International Conference on Advancements in Computing and Communications* at BBSBEC, Fatehgarh Sahib, pp. 529-534, February 23-25, 2012.
10. Sneha Chhabra and **Raman Maini**“An Image compression Technique using Fractals” Proc. of *International Conference on Advancements in Computing and Communication* at BBSBEC, Fatehgarh Sahib, pp. 539-544, February 23-25, 2012.
11. Nitish Jindal, **Raman Maini**, Gurpreet Singh and Neha Singla“Artificial Neural Network- An Optimization Tool” Proc. of *National Conference on Global Upcoming in Environment, Science and Technology*, April 13-14, 2012

#### **AY 2016-17**

12. HarpreetKaur and **Raman Maini** (February 2016) “Identification of recurring patterns of code to detect structural clones” Proceedings *IEEE 6th International Conference on Advanced Computing*, pp. 398-403.



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- 13.** Harpreet Kaur and **Raman Maini** (2018) “Granularity based assessment of similarity between short text strings”, Proceeding in *Third International Conference on Microelectronics, Computing & Communication Systems*, Lect. Notes Electrical Eng., Vol. 556.

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- 14.** Jasvir Singh and **Raman Maini** (March 2020) “Buffer Size Impact on Epidemic and Spray-and-wait Routing in Delay Tolerant Networks”, ICAET-2020: *8th International Conference on Advancements in Engineering & Technology*, Bhai Gurdas Institute of Engineering & Technology, Sangrur, India, March 20-21, 2020
- 15.** Jasvir Singh and **Raman Maini** (May 2020) “Improving Message Delivery Performance of Epidemic Routing in Opportunistic Networks” Proceeding in *International Conference on Applications of AI & Machine Learning (ICAML-2020)*, Organized by Department of Computer Science & Engineering, Punjabi University, Patiala, India, May 21-22, 2020
- 16.** Ishpreet Singh Virk and **Raman Maini** (May 2020) “Computer-Aided Medical Image Analysis for Prostate Cancer Detection: A Review” Proceeding in *International Conference on Applications of AI & Machine Learning (ICAML-2020)*, Organized by Department of Computer Science & Engineering, Punjabi University, Patiala, India, May 21-22, 2020
- 17.** Ishpreet Singh Virk and **Raman Maini** (May 2020) “Role of Deep Learning in Detecting Prostate Cancer” Proceeding in *International Conference on Applications of AI & Machine Learning (ICAML-2020)*, Organized by Department of Computer Science & Engineering, Punjabi University, Patiala, India, May 21-22, 2020

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- 18.** K. Singh, L.Kaur & **Raman Maini**, “Comparison of Principle Component Analysis and Stacked Autoencoder on NSL-KDD Dataset”, Proceedings of ICMDE 2020( August),, Pages 223-241( **Springer Conference**)

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- 19.** **S. Wadhawan and R. Maini**, "Performance Analysis of Machine Learning Techniques for Predicting Cardiac Disease," 2021 6th International Conference on Communication and Electronics Systems (ICCES), 2021, IEEE publisher pp. 1625-1630, doi: 10.1109/ICCES51350.2021.9489197.
- 20.** **S. Wadhawan, R. Maini, Balwinder Singh (2023)**, “Analyzing the impact of oversampling on classifier performance for cardiac disease classification”, 4th International Conference on “Mobile Radio Communications & 5G Networks (MRCN– 2023) held at UIET Kurukshetra on August 25-26. (Springer, Scopus)

- 21. S. Virk and R. Maini**, "Multiclass Classification of Prostate Cancer Gleason Grades Groups Using Features of multi parametric-MRI (mp-MRI) Images by Applying Machine Learning Techniques," *2023 International Conference on Artificial Intelligence and Smart Communication (AISC)*, Greater Noida, 27-29 January 2023, India, 2023, pp. 954-958, doi: 10.1109/AISC56616.2023.10085270.

## **Book Chapters**

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- 1. Raman Maini , Sandhya Bansal and Rajeev goel** " Help from Help from Sky to Fight Against COVID-19 Pandemic: The uses of drones." APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No. 6-10
- 2. Simranjot Kaur and Raman Maini**, "An Overview of Different Techniques of Sentiment Analysis" APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No. 65-68.
- 3. Ishpreet Singh virk and Raman Maini**," Role of Deep Learning in Detecting Prostate Cancer", APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No.147-152
- 4. Sneh Kanwar singh Saidhu**, Raman Maini and Dhavleesh Rattan," Comparative Analysis of Different Segmentation Techniques for Automatic Number Plate Recognition System : A review", APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No.266-277
- 5. Savita Wadhwa and Raman Maini**," Trends and Focus of Machine Learning for Chronic Disease", APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No.289-296
- 6. Jasvir Singh and Raman Maini**," Improving Message Delivery Performance of Epidemic Routing in Opportunistic Networks," APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No.312-318
- 7. Balwinder Singh and Raman Maini**," Binarization of natural scene word images using k-means algorithm", APPLICATIONS OF AI AND MACHINE LEARNING, Department of Computer Science and Engineering, 2021 Page No.399-401
- 8. Chinu Single, Raman Maini and Munish Kumar**, "Sports Analytics Web Api Using Deep Learning Approach," APPLICATIONS OF AI AND MACHINE LEARNING, Page No. 263-266 ISBN:- 978-93-93579-09-6 Dec 2021

9. **Perminder Kaur, Raman Maini and Sartajvir Singh,** " Review of Emerging Image Fusion Techniques for Remote Sensing Applications," APPLICATIONS OF AI AND MACHINE LEARNING, Page No. 298-304 ISBN:- 978-93-93579-09-6 Dec 2021
10. **Ravneet Kaur; Raman Maini; Reet Kamal Tiwari and Sartajvir Singh,**" Role of Isro's Ku-Band Based Scatsat-1 In Agriculture Applications,"APPLICATIONS OF AI AND MACHINE LEARNING, Page No. 380-385 ISBN:- 978-93-93579-09-6 Dec 2021
11. **Prabhjot Kaur, Raman Maini and Sumandeep Kaur,**" Various Optimized Techniques For Routing In WSN," APPLICATIONS OF AI AND MACHINE LEARNING, Page No. 397-401 ISBN:- 978-93-93579-09-6 Dec 2021
12. **Mandeep Singh and Dr. Raman Maini,**" Data Mining Techniques for Electricity Demand Forecasting ," APPLICATIONS OF AI AND MACHINE LEARNING, Page No. 402-405 ISBN:- 978-93-93579-09-6 Dec 2021.
13. **Isha Sharma and Raman Maini,**" Comparative Analysis of Various Manet Routing Protocols under DDoS Attack: A Systematic Review," APPLICATIONS OF AI AND MACHINE LEARNING, Page No. 337-343 ISBN:- 978-93-93579-09-6 Dec 2021.

#### **Ay 2022-23**

14. **Chinu Singla, and Raman Maini,** "To Detect Rice Leaf Diseases using Convolutional Neural Network – , National Seminar on Role Of Artificial Intelligence and Automation in Modern Age Agriculture, 132-135, july 2022
15. **Isha Sharma, and Raman Maini,**" A Comprehensive Study on Modern Farming Using IOT, National Seminar on Role Of Artificial Intelligence and Automation in Modern Age Agriculture, pp. 317-326, July 2022

## **Appendix-VIII**

### **Conferences/Seminars Paper Presented and Attended**

#### **Conferences Attended**

1. Attended the International Conference on "**Advancements in Engineering and Technology**" at Bhai Gurdas Institute of Engineering and Technology Sangrur held on 12-13,2012
2. Participated in the National Seminar on "**ACADEMIA-INDUSTRY INTERFACE**", at Om

Institute of Technology and Management on **27th February, 2010.**

3. Attended and Delivered an Oral Presentation in the National Conference on “**Emerging Researches in Engineering Technology and Management(ERETM-2012)**” held at KC college of Engineering & IT Nawanshr, Punjab on 19-20 October 2012.
4. Participated in National Seminar on “**Modern Trends and Techniques in Computing**” organized by school of computer and Systems Sciences, Jaipur National University Jaipur on **30<sup>th</sup> March 2010.**
5. Participated in the National Conference on “**Recent Advancements in Science & Engineering**”,**Jan 6-7, 2012** at Guru Ram Dass Institute of Engineering & Technology, Lehra Bega, Bathinda, Punjab.
6. National conference on Recent trends in “**Mathematics & its Applications**” RTMA-11 **December 16- 17, 2011**, SLIET(Deemed University) Longowal, Distt.Sangrur,Punjab
7. Presented a Paper in *International Conference on Applications of AI & Machine Learning (ICAML-2020)*, Organized by Department of Computer Science & Engineering, Punjabi University, Patiala, India, May 21-22, 2020
8. Participated in the National Conference on “**Advances in Computational Intelligence**” NCACI 11 organized by Sat Priya Group of Institutions, Rohtak

## **Appendix-IX**

### **FDPs/Workshops/Seminar Attended**

#### **FDP Attended**

##### **AY 2002-03**

1. Four weeks **UGC, New Delhi** sponsored **Refresher Course** in the subject **General Orientation Program** from **29.11.2002 to 26.12.2002** at **Academic Staff College, Guru Nanak Dev University Amritsar**

##### **AY 2005-06**

2. Three weeks **UGC, New Delhi** sponsored **Refresher Course** in the subject **Computer Science** from **10.12.2005 to 30.12.2005** at **Academic Staff College, Punjab University, Chandigarh**

##### **AY 2008-09**

3. One-week **AICTE, New Delhi** sponsored **Short Term Programme** on Neural Networks, Fuzzy Logic and their Applications from 09.03.2009 to 13.03.2009 at National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, India.
4. One-week **AICTE, New Delhi** sponsored **Short Term Programme** on **Advancements in Image Processing** from **25.05.2009 to 31.05.2009** at **National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, India.**

#### **AY 2010-11**

5. Participated in Faculty Training Workshop on “**Ethical Hacking & Information Security**” Conducted by kyrion Digital Securities at “Yadavindra College of Engineering”, Talwadi Sabo on **26-27 March 2011**.

#### **AY 2015-16**

6. Participated in National Institute of Technical Teachers Training and Research (NITTTR) sponsored two-Week short-term course on "**Cyber Threat Detection and Safety**" conducted by Department of CSE, Punjabi University, Patiala, Punjab (India) from **4th January 2016 to 15th January 2016**.

#### **AY 2019-2020**

- Participated in National Institute of Technical Teachers Training and Research (NITTTR) sponsored one Week short term course on "**Internet of Things**" conducted by Department of CSE, Punjabi University, Patiala, Punjab (India) from September **23<sup>rd</sup> to 27<sup>th</sup> September 2019**
7. Participated in National Institute of Technical Teachers Training and Research (NITTTR) sponsored one Week short term course on "**Cyber Security and Forensics** " conducted by Department of CSE, Punjabi University, Patiala, Punjab (India) from **9<sup>th</sup> December to 13th December 2019**.

#### **Workshop Attended**

1. Attended a workshop on “**NATIONAL e-GOVERNANCE PLAN (NeGP)**” on December 22, 2011 at Punjabi University Patiala.
2. Attended a workshop on “**Computer Networking and Troubleshooting**” on 4th March, 2016 organized by Department of Computer Science and Engineering, Punjabi University Patiala.
3. Attended a workshop on “ **Cellphone Controlled Robotics**” held at Punjabi University Patiala on 7/2/2018.
4. Participated in Apps Fluxus2016 National “ **Big Data with Hadoop**” championship workshop held at Baba Banda Singh Bahadur Institute of Engineering and Technology on 19th September, 2015
5. Attended two days workshop on “**Latest Trends in Cloud Computing**” held on 11-12 April, 2016 organized by Department of CSE PUNjabi University Patiala.
6. Attended technical workshop on “ **Emerging WLAN Trends and D-Link Mobility Solutions**” organized by Punjabi University in association with **D-LINK**

#### **Seminar Attended**

1. Attended One day seminar entitled “**Cloud Computing Automation in University**” on **14<sup>th</sup> December 2011**.

## **Appendix-X**

### **Other Relevant Information**

Sr.	Details (Mention Year, value etc. where relevant)
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<b>No.</b>	
1	Head of the Department
2	Microsoft Certified Professional(MCP)
3	Merit Certificate in M.Tech (CSE)
4	Established the Full-Fledged 4 Computer Labs at UCoE, Punjabi University, Patiala.
5	Editor and Reviewer of Many International Journals of Repute
6	Member of Selection Committee for Selection of Assistant Professor/ Associate /Professors/Principals in University Affiliated Colleges as Subject Expert appointed by Honorable Vice-Chancellor
7.	Member of Inspection Committee for introducing various courses in University Affiliated Colleges as Subject Expert appointed by Honorable Vice-Chancellor
8.	Established State of the Art Conference Room in department of Computer Science & Engineering
9.	Member Board of studies of PTU, Jalandhar MMU Mullana, SBSSTC Ferozepur, Mata Gujri College Fatehgarh Sahib
10.	Established Full Fledged Departmental Library at CSE Department Punjabi University
11.	Established various student chapters in CSE department like ACM , IEI, Oracle Academy
12	Chairman Board of Studies of CSE Department for three years