Dr. Dhavleesh Rattan
Assistant Professor, Department of Computer Engineering
Punjabi University, Patiala
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EDUCATIONAL QUALIFICATIONS

Degree	Year	College/University	Divn.	% of Marks /CGPA
B.Tech. (COMPUTER SCIENCE & ENGINEERING)	2003	PTU, JALANDHAR	FIRST	73.08%
M. Tech. COMPUTER SCIENCE & ENGINEERING	2008	PTU, JALANDHAR	FIRST	72.09%
Ph. D. COMPUTER SCIENCE (Software Clone Detection)	2015	TIET, PATIALA Supervisors: Dr. Rajesh Bhatia, PEC Univ. of Technology, Chandigarh & Dr. Maninder Singh, TIET, Patiala	FIRST	--

TEACHING AND PROFESSIONAL EXPERIENCE

Position Held	Name of Organization	Period		Nature of Work
		From	To	
ASSISTANT PROFESSOR	PUNJABI UNIVERSITY, PATIALA	02/08/13	Till Date	Research, Teaching and Administration
ASSISTANT PROFESSOR	BBSBEC FATEHGARH SAHIB	21/01/04	02/08/13	Teaching, Research and Administrative.

RESEARCH THESIS SUPERVISED

Ph. D.   04 (Ongoing)

M.E.   19 Guided and 5 (ongoing)

S. No	Name of the Student	University Roll no.	Title of the Thesis	Year	Branch
1.	Amanpreet Kaur	4120325	Automatic marking of Punjabi syllables boundaries in a sound file	2010	CSE
2.	Perminder Kaur	6120338063	Enhancement of fault tolerance of intrusion detection system using AES and DES based heart beat events	2011	CSE

3.	Manpreet Kaur	808011070 17	Comparison and Evaluation of Clone Detection Tools: An experimental approach	2012	CSE
4.	Amanpreet Kaur Chela	808011070 10	Economic Effect of Cloning on Software Maintenance	2012	CSE
5.	Tejpal Sharma	100068881 126	Computer Forensic Analysis of NTFS File System	2013	E-Security
6.	Hardeep Singh	100068881 116	Word Occur Ranking Algorithm (An efficient time based filtering algorithm)	2013	E-Security
7.	Aishma Sharma	71203074	Metrics based software quality assessment of cloning on software systems	2013	CSE
8.	Raminder Singh	512033807 0	Automating the compliance of www documents with the compliance matrix	2013	CSE
9.	Mishi	101615	Enhancement of MANET using SWARM intelligence	2013	E-Security
10.	Amanjot Kaur	808011070 16	Benchmarking classification techniques on the basis of dimensions of dataset	2013	CSE
11.	Kamalpreet Kaur	11171005	Transforming UML Class Model into Database and to develop technique for Class Model Comparison	2014	CSE
12.	Sukhdeep Singh	11391067	Enhancing UML Class Diagram With OCL	2015	CSE
13.	Ramanpreet Kaur	11391065	Consistency Checking in UML Models	2015	CSE
14.	Srishti	11491056	The Hobby Place	2016	CSE
15.	Charanpreet Singh	11491055	Assessing the Refactoribility using various clone detection techniques	2016	CSE
16.	Jagdeep Kaur	11371006	Code Clone Detection using Metrics	2016	CSE
17.	Shivani	11591014	Implementation of OCL Constraints in Java	2017	CSE
18.	Neha Sadana	11471046	Sanskrit Lexical Analyzer	2017	CSE
19.	Anupama Sharma	11471045	Sanskrit to English transliteration	2017	CSE

PUBLICATIONS IN NATIONAL/ INTERNATIONAL JOURNALS

1. D. Rattan, R. Bhatia, M. Singh, An empirical study of clone detection in MATLAB/Simulink models. International Journal of Information and Communication Technology 13 (1) (2018) 20-33.

2. Manish Kumar, Rajesh Bhatia, Dhavleesh Rattan, A survey of Web crawlers for information retrieval. Wiley Interdisc. Rew.: Data Mining and Knowledge Discovery 7(6) (2017) **(SCI, IF 2.11)**.

3. S. Dahiya, R. Bhatia and D. Rattan, Regression test selection using class, sequence and activity diagrams. IET Software, 10 (3), (2016) 72-80 **(SCI, IF 1.07)**.

4. C. Singh, D. Rattan, Adaptive Segmented Block based Clone Detection and Refactoring using Divide and Conquer Method, International Journal of Advanced Research in Computer Science 7 (6) (2016) 28-31.

5. B. Sood, D. Rattan, An Efficient Method to Generate Automation Scripts using Selenium Tool, International Journal of Engineering Sciences 17 (2016), 1-7.

6. D. Rattan, R. Bhatia, M. Singh, Detecting high level similarities in source code and beyond. International Journal of Energy, Information and Communications 6 (2) (2015) 1-16.

7. D. Rattan, R. Bhatia, M. Singh, Detection and Analysis of Clones in UML Class Models. International Journal of Software Engineering, 8 (2) (2015) 69-99.

8. S. Singh, D. Rattan, Enhancing UML Class Diagram using OCL. PCTE Journal of Computer Sciences 12 (2) (2015) 40-46.

9. D. Rattan, Clone Management using the CloneBoard. PCTE Journal of Computer Sciences 12 (2) (2015) 20-23.

10. D. Rattan, R. Bhatia, M. Singh, Software clone detection: a systematic review. Information and Software Technology 55 (7) (2013) 1165-1199. **(SCI, IF 1.569)**

11. M. Kaur, D. Rattan, R. Bhatia, M. Singh, Comparison and evaluation of clone detection tools: an experimental approach. CSI Journal of Computing 1 (4) (2012) 44-54.

12. T. Sharma, D. Rattan, Computer Forensic Analysis of NTFS File System, International Journal in Computer Science and Communication Engineering 1 (1) (2012) 1-4.

13. P. Kaur, D Rattan, AK Bhardwaj, An analysis of mechanisms for making IDS fault tolerant, International Journal of Computer Applications 1 (24) (2010) 22-25.

PUBLICATIONS IN NATIONAL/ INTERNATIONAL CONFERENCES

1. R. Kaur, D. Rattan, Automated Approach for checking Consistency in UML Use Case and Sequence Diagram, in Proceedings of International Conference on Recent Trends in Computing (ICRTC'16), Punjabi University, Patiala, India, 30-31 Aug., 2016.

2. D. Rattan, J. Kaur, Systematic mapping study of metrics based clone detection techniques, in Proceedings of ACM International Conference on Advances in Information Communication Technology and Computing (AICTC'16), Bikaner, India, 12-13 Aug., 2016.

3. D. Rattan, Systematic Mapping Study of Metrics Based Clone Detection Technique, in Proceedings of 19th Punjab Science Congress, SUS Group of Institutions, Tangori, Mohali, India, 07-09 Feb., 2016.

4. D. Rattan, K. Kaur, UML Class Model Comparison using Database Approach, in: Proceedings of International Multi-Track Conference on Sciences, Engineering and Technical Innovations, CT Group of Institutions, Shahpur, Jalandhar, 2015, pp. 238-241.

5. A. Kaur, D. Rattan, Benchmarking Classification Techniques on the basis of Dimensions of Dataset, in: Proceedings of 4th International Conference on Recent Trends in Information, Telecommunication and Computing (ITC'13), Chandigarh, India, Aug 01-02, 2013.

6. A. Kaur, D. Rattan, Clone Cost Effects? in: Proceedings of International Conference on Advancements in Computing and Communications, BBSBEC, Fatehgarh Sahib, 2012, pp. 297-299.

7. S. Kaur, D. Rattan, Meta Object Facility- A Cross Platform Approach, in: Proceedings of International Conference on Advancements in Computing and Communications, BBSBEC, Fatehgarh Sahib, 2012, pp. 292-296.

8. A. Sharma, D. Rattan, Code Quality Analysis – Cloned vs Non – cloned code, in: Proceedings of National Conference on Emerging Researchers in Engineering, Technology & Management, Nawanshahar, 2012, pp. 38-41.

9. H. Singh, D. Rattan, Word Occur Ranking Algorithm, in: Proceedings of International Conference on Emerging Trends in Engineering, Panipat, India, 2012.

10. D. Rattan, R. Bhatia, M. Singh, Model clone detection based on tree comparison, in: Proceedings of Annual IEEE India Conference (INDICON'12), Kochi, India, 2012, pp. 1041-1046.

11. M. Kaur, D. Rattan, R. Bhatia, M. Singh, Clone detection in models: An empirical study, in: Proceedings of the 3rd IBM Collaborative Academia Research Exchange (I-CARE), New Delhi, India, 2011.

12. P. Kaur, D. Rattan, A. K. Bhardwaj, Enhancement of fault tolerance of intrusion detection system using AES and DES based heart beat events, in: Proceedings of

ACM International Conference & Workshop on Emerging Trends in Technology (ICWET'11), Mumbai, India, 2011, pp. 292-297.

13. A. Kaur, P. Singh, D. Rattan, Automatic marking of Punjabi syllables boundaries in a sound file, in Proceedings of 2nd IEEE International Conference on Signal Processing Systems (ICSPS) at Dalian, China, 2010, pp. 313-316.

14. D. Sharma, D. Rattan, Problem of Child Labour: Indian Perspective, in: Proceedings of ICSSR sponsored National Seminar on Human Rights in Globalized Era, Public College, Samana, India, 2007.

15. D. Rattan, N. Walia, Paradigm Shift in Banking Services: Use of Innovative Technology in Banking, in: Proceedings of National Conference on Computers Sciences and Information Technology, BBSBEC, Fatehgarh Sahib, India, 2006.

16. D. Rattan, E-Waste – The Ugly face of IT – Indian Perspective, in: Proceedings of National Conference on Energy Eco-system Environment and Sustainable Development, BBSBEC, Fatehgarh Sahib, India, Aug., 2005.

NATIONAL/ INTERNATIONAL CONFERENCES/ SYMPOSIA ATTENDED

- International Conference on Recent Trends in Computing (ICRTC'16) held at Punjabi University, Patiala on 30-31 Aug., 2016.

- International Conference on Advances in Information Communication Technology & Computing (AICTC'16) held at Govt. Engg. College, Bikaner on 12-13 Aug., 2016

- 19th Punjab Science Congress held at SUS Group of Institutions, Tangori, Mohali on 07-09 Feb., 2016.

- Annual IEEE India Conference (INDICON'12) held at Kochi on 07-09 Dec. 2012.

- International Conference on Advancements in Computing and Communications, BBSBEC, Fatehgarh Sahib, 23-25 Feb., 2012.

- 3rd IBM Collaborative Academia Research Exchange (I-CARE) held at New Delhi on 13 Oct., 2011.

- National Conference on Computers Sciences and Information Technology held at BBSBEC, Fatehgarh Sahib on Feb., 2006.

- National Conference on Energy Eco-system Environment and Sustainable Development held at BBSBEC, Fatehgarh Sahib on Aug., 2005.

ORIENTATION COURSE/ REFRESHER COURSE ATTENDED

- Attended 56th Interdisciplinary Refresher Course in information technology at HRDC, Punjabi University, Patiala from Dec. 1, 20165 to Dec. 21, 2016.
- Attended 27th Orientation Programmer at HRDC, Punjabi University, Patiala from Oct. 1, 2015 to Oct. 28, 2015.

SHORT TERM COURSE/ FACULTY DEVELOPMENT PROGRAMME/ WORKSHOP ATTENDED

Sr. No.	Name of the Course	Organizer	Duration
1.	Computer Based Mathematics	Thapar Institute of Engineering and Technology, Patiala	27-12-04 – 31-12-04
2.	Software Project Management	Indian Institute of Technology, Kanpur	01-07-05 – 07-07-05
3.	Mobile Computing	National Institute of Technology, Hamirpur	18-12-06 – 22-12-06
4.	Advanced Mobile Communication	National Institute of Technical Teachers' Training and Research, Chandigarh	21-01-08 – 25-01-08
5.	Role of Soft Skills in Effective Classroom Management	Indian Institute of Technology, Roorkee	23-06-08 – 04-07-08
6.	Leveraging Open Source for Education	Punjab Technical University, Jalandhar	12-07-10 – 16-07-10
7.	Excellence in Teaching	Punjab Technical University, Jalandhar	19-07-10 – 23-07-10
8.	Introduction to Graph and Geometric Algorithms	Thapar University, Patiala and Tata Institute of Fundamental Research, Mumbai	28-10-10 – 30-10-10
9.	7 days Training Workshop on Gender Sensitization: Issues and Challenges	Women Study Centre, Punjabi University, Patiala	26-02-15 – 04-03-15

EXPERT LECTURES/ SESSION CHAIRS

- Delivered Key-Note address on "Carrying Systematic Literature Reviews" in National Conference on "Recent Developments in Engineering and Technology" at Gurukul Vidyapeeth Institute of Engineering and Technology, Banur on Mar. 10, 2017.

- Delivered an expert lecture on "Software Clone Detection: A Systematic Review" in Session II on 18/01/17 in "Recent Innovations in Software Testing", a STC scheduled from Jan. 16-20, 2017 at DCRUST, Murthal.

- Delivered an expert lecture on "Why is it so hard to use models in software development- Some Observations" in Session III on 18/01/17 in "Recent Innovations in Software Testing", a STC scheduled from Jan. 16-20, 2017 at DCRUST, Murthal.

- Delivered an expert lecture on "Advanced Data Structures" at Gurukul Vidyapeeth on 02 Sep, 2016.

- Delivered an expert lecture on "Pointers in C" at Gian Jyoti Institute of Engineering and Technology on 11 April, 2014.

- Delivered an expert lecture on "Implementation of linked lists in C" at Punjab College of Technical Education, Baddowal on 31 Aug., 2012.

NATIONAL EVENTS SEMINARS/ WORKSHOPS/ CONFERENCES/ FDP ORGANIZED

- International Conference on **Recent Trends in Computing (ICRTC'16)** held at Punjabi University, Patiala on 30-31 Aug., 2016.

- AICTE and DST Sponsored International Conference on **Advancements in Computing and Communications** at BBSBEC, Fatehgarh Sahib, 23-25 Feb., 2012

- Expert Lecture on "**Programming Skills for IT Industry**" by Dr. J. K. Chhabra from NIT Kurukshetra on 15 March, 2011

- Expert Lecture on "**Exploit Development**" by Dr. Maninder Singh from TIET, Patiala on 28 March, 2011.

- One Week PTU Sponsored FDP on "**IBM Workshop on RAD/DB2**" from 5 July, 2010 to 9 July, 2010.

- National Conference on **Advancements in Information and Communication Technology** at BBSB Engg. College, Fatehgarh Sahib, 04-04-2010.

- National Conference on **Computers Sciences and Information Technology** held at BBSBEC, Fatehgarh Sahib on Feb., 2006.

NUMBER OF DIFFERENT COURSES TAUGHT

Sr. No.	Course Title	Semester	Level	Number of times taught
1.	Data Structures and Programming Methodology	3	UG	4
2.	Object Oriented Programming Systems	2	UG	2
3.	System Analysis & Design	5	UG	2
4.	Software Project Management	8	UG	4
5.	Operating System	4	UG	2
6.	Digital Circuits and Logic Design	3	UG	1
7.	Design and Analysis of Algorithms	5	UG	1
8.	Computer & Society	6	UG	2
9.	Management Information Systems	6	UG	1
10.	Theory of Computation	5	UG	2
11.	Object Oriented Analysis and Design using UML	7	UG	2
12.	Network Security	3	PG	1
13.	Management Information Systems	2	PG	1
14.	Mathematical Models for Internet	2	PG	1
15.	Advanced Software Engineering	1	PG	1
16.	Advanced Data Structures	2	PG	1
17.	Software Engineering	3	PG	1
18.	Artificial Intelligence	3	PG	1

SETTING UP TEACHING AND RESEARCH LABORATORIES
1. Software Engineering Lab at Undergraduate Level
2. Object Oriented Analysis and Design using UML Lab at Post Graduate Level
3. Installation of QualNet, a network simulator in Research and Development Lab

CONDUCTING LABORATORY COURSES

Sr. No.	Course Title	Semester	Level
1.	Data Structures and Programming Methodology Lab	6	UG
2.	Operating System Lab	5	UG
3.	Digital Circuits and Logic Design Lab	3	UG
4.	Design and Analysis of Algorithms Lab	5	UG
5.	Management Information Systems Lab	6	UG
6.	Object Oriented Programming Systems Lab	4	UG
7.	Software Engineering Lab	6	UG
8.	Object Oriented Analysis and Design Lab using UML	6	PG
9.	Software Engineering Lab	1	PG

MEMBERSHIP OF PROFESSIONAL BODIES

- Punjab Academy of Sciences
- Indian Association for Research in Computing Science

RESEARCH INDICES

Sr. No.	Name of Agency	Metrics	Citations
1.	Google Scholar	H-Index-5, i10 index-2	188
2.	ResearchGate.net	Reads-1278	

AREAS OF INTEREST, EXPERTISE

Network Security, Software Clone Detection, Software Testing, Digital Forensics, Web Crawlers

DHAVLEESH RATTAN