

**Dr. Abhinav Bhandari**  
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## ACADEMIC DETAILS

Degree	Institute	Board/University	Year	CPG/%
<b>Ph. D</b>	NIT Jalandhar	Deemed University	2017	9 CGP in course work
<b>M.Tech(CSE)</b>	D.A.V.I.E.T. Jalandhar	Punjab Technical University, Jalandhar	2008	77.76%
<b>B.Tech(CSE)</b>	G.T.B.K.I.E.T , Malout	Punjab Technical University, Jalandhar	1997-2001	63.76%
<b>12th</b>	D.M.College, Moga	P.S.E.B, Mohali	1997	55.5%
<b>10th</b>	D.N.Model School, Moga	C.B.S.E, New Delhi	1995	78.2%

## PRESENT OCCUPATION

ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTER ENGINEERING, PUNJABI UNIVERSITY PATIALA SINCE JAN 2012.

## TEACHING EXPERIENCE

- Worked as a Lecturer from 7th August 2001 to April 2008 in Lala Lajpat Rai Institute of Engineering and Technology Moga.
- Worked as a Assistant Professor from 7th April 2008 to 5th Jan 2012 in Lalal Lajpat Rai Institute of Engineering and Technology, Moga.
- Was on study leave for pursuing PhD in Dr. B.R Ambedkar National Institute of Technology, Jalandhar from 26th July 2010 to 3rd Jan 2012 as a regular candidate.

## SEMINARS/WORKSHOPS/FDP ATTENDED

1. Participated in AICTE Sponsored and TEQIP-II supported Faculty Development Programme on "**Research Techniques**" Organized by Department of Mechanical Engineering from **May 25th June 5th 2015**.
2. Participated in NITTTR sponsored AICTE Recognized Two Weeks Short term course "**Vulnerability in Cyberspace and Adopting Security Policies**" conducted at MIMT, Malout from **20th July 2015 to 31st July 2015**.
3. Participated one day workshop cum Contest on **Business Intelligence** held at Chitkara University, Punjab Campus on textbf28th Feb 2013 organized by Infosys Limited Chandigarh.
4. Participated in 5 days workshop/Meet of Advance Asia Pacific Meet organized by APAN, from **22-26th August 2011** at Indian Habitat Centre New Delhi.
5. Participated in the 3 days workshop on "**Learning Effective Document Writing using LaTeX**" organized by Department of Information Technology, DAVIET Jalandhar from **8-10th April, 2010**.
6. Participated two days workshop cum short term course on "**Design of Intelligence Systems using Artificial Intelligence (MATLAB)**" organized by PTU Regional Centre,LLRIET,Moga from **30th July to 31st July 2005**.

## NATIONAL EVENTS SEMINARS/WORKSHOPS ORGANIZED

Office held	Activity	Date and Venue
Over All Coordinator	NITTTTR sponsored Two Weeks Faculty Development Programme	4th Jan 2016 to 15th Jan 2016 Department of Computer Engineering , Punjabi University Patiala
Session Chair	National Congress on Science and Technology for Futuristic Computing and Applications	30th and 31st May 2013 at DAVIET, Jalandhar
Over All Coordinator	ASTRON 2k 10 a National Level Techno Cultural Symposium	19th -20th Feb 2010 LLRIET, Moga
Convener	Association of Computer Engineers Club	26th July 2006, 25th July 2010.
Member	National Conference on Advancements in Modeling and Simulation	20-21st January 2006, LLRIET, Moga.

## COMPUTER PROFICIENCY / SOFTWARE SKILLS

**Programming languages**(ANSI C, Turbo C++,Java), **Web**(HTML, Java Script), **Simulators**(Network Simulator NS-2),**textbfNetworking**(LAN/WAN Designing,Configuration and troubleshooting on CISCO products), **Operating systems**(Windows variants, Linux), **Analysis Tools**(Gnuplot, xgraph, Tracegraph),**Operating Environment**(Windows 9X, NT ,UNIX and its Derivatives (Scripting: -Shell, Sed, Awk programming also)).

## PROJECTS UNDERTAKEN

- **Evolving Mathematical Expressions using the Genetic Algorithms**

- **Language used:** C++ .
- **Details:** This project was developed to optimize the no of solutions that can be made when the number is given as an input. One solution gives the one mathematical expression. Concept of Genetic Algorithm was used.

- **Chemist shop Management**

- **Front-end:**Visual Basic
- **Back end:** Ms-Access
- **Details:**This project was made to automate the chemist shop.

- **Chat application**

- **Front end:**Java
- **Back end:** File system
- **Details:** This project was done in java and uses the concept of Socket Programming and shows how client communicates with the server.

## ADMINISTRATIVE EXPERIENCES / PROFESSIONAL ACHIEVEMENTS

1. Secretary of Board of Studies Committee of the Department of computer Engineering in Punjabi University, Patiala.
2. Website In-charge `Ce.pup.ac.in` since 2015.
3. Worked as Head of Department, in LLRIET, Moga Since July 2006 to July 2010.
4. Worked as Coordinator of PG Classes for MTech Course in LLRIET, 2008 to July 2010.
5. Coordinated the LLRIET Website `llriet.ac.in`.
6. Worked as Overall In-charge of Internet Maintenance at LLRIET, Moga.

7. Worked as Faculty Advisor for ISTE student Chapter LLRIET, Moga for one year.
8. Examiner, Punjab Technical University (PTU), Jalandhar. INDIA.
9. Was a Member of Editorial Board of LLRIET College Magazine Reflections.
10. Worked as Overall In-charge of Purchase Committee at LLRIET, Moga.
11. Worked as Centre Superintendent for conducting the PTU Examinations at Baba Mangal Singh College, Moga in 2006.
12. Worked as Overall Time Table In-charge since 2003-2006 in LLRIET, Moga.

## LANGUAGE PROFICIENCY

Language	Read	Write	Speak
Hindi	Yes	Yes	Yes
English	Yes	Yes	Yes
Punjabi	Yes	Yes	Yes

## SUBJECTS / TEACHING AREAS HANDLED TILL DATE AT UG AND PG LEVELS OF ENGINEERING

1. Computer Networks
2. Network Security
3. Operating Systems
4. Object oriented Programming
5. DBMS
6. Theory of Computation

## MEMBER OF PROFESSIONAL BODIES/SOCIETIES

1. Member of Indian Society for Technical Education (I.S.T.E.), India
2. Member of Indian Society of Information Theory and Applications (Member Ship No. 119).
3. Member of Internet Society Chapter.
4. Member of Institute of Doctors Engineers Scientist (IDES) (Membership no.1933).
5. Member of International Association of Engineers ( Member ship no. 139656)

## NATIONAL/INTERNATIONAL JOURNAL PUBLICATIONS

1. Kumar Manish and Bhandari, Abhinav, "**Performance Evaluation of Web Server's Request Queue against AL-DDoS Attacks in NS-2**" International Journal of Systems Science & Control Engineering, Taylor & Francis (2017) indexed in Emerging Sources Citation Index (ESCI), SCOPUS and Web of Science.
2. Kaur, Parneet, Kumar Manish and Bhandari, Abhinav, "**A review of detection approaches for distributed denial of service attacks**" International Journal of Information Security and Privacy (IJISP) (2017) indexed in Web of Science Emerging Sources Citation Index (ESCI), SCOPUS, Compendex (Elsevier Engineering Index)
3. Bhandari, Abhinav, Amrit Lal Sangal, and Krishan Kumar. "**Characterizing flash events and distributed denial of service attacks: an empirical investigation.**" Security and Communication Networks (2016) SCI journal with impact factor 1.01.
4. Bhandari, Abhinav, A. L. Sangal, and Krishan Kumar. "**Performance Metrics for Defense Framework against Distributed Denial of Service Attacks**" Int. J. of Network Security 6 (2014).

5. Bhandari, Abhinav, A. L. Sangal, and Krishan Kumar. "**Destination Entropy based Detection and Traceback Approach against Distributed Denial of Service Attacks**" Int. J. Computer Network and Information Security,2015,vol.8,pp-9-20.
6. Kumar, Santosh, A.L Sangal and Abhianv Bhandari **Comparison of Queuing Algorithms against DDoS Attacks** in International Journal of Computer Science and Information Technologies (IJCSIT), Vol 2 (4), 1574-1580, ISSN:0975-9646, 2011.  
<http://www.ijcsit.com/docs/Volume%202/vol2issue4/ijcsit2011020441.pdf>
7. Singh, Satwinder and Abhinav Bhandari **Review of PPM, A Traceback Technique for Defending Against Distributed Denial of Service Attacks**, in International Journal of Engineering Trends and Technology (IJETT), Volume 4 Issue 6, ISSN: 2231-5381, June 2013.  
<http://www.ijettjournal.org/volume-4/issue-6/IJETT-V4I6P163.pdf>
8. **Review on RED Algorithm Along with Active Queue Management** in International Journal of Research in Electronics and Computer Engineering Volume 2. Issue1 Jan-March 2014 ISSN:2348-2281.
9. Singla, Jimmy, Dinesh Grover, and Abhinav Bhandari. "**Medical Expert Systems for Diagnosis of Various Diseases**" International Journal of Computer Applications 93, no. 7 (2014): 36-43.
10. Tamana and Abhinav Bhandari. "**Router Based Mechanism for Mitigation of DDoS Attack-A Survey**" International Journal of Computer Applications Technology and Research 3, no. 7 (2014): 420-426.
11. Gupta, Shaveta, Dinesh Grover, and Abhinav Bhandari. "**Detection Techniques against DDoS attacks: A Comprehensive Review**" International Journal of Computer Applications 96, no. 5 (2014): 49-57.
12. Singh, Jatinder and Abhinav Bhandari. **A Review of Wireless Sensor Network Under the Denial Of Service Attack**, IJSRD - International Journal for Scientific Research and Development— Vol. 2, Issue 05, 2014 — ISSN (online): 2321-0613
13. Neha and Abhinav Bhandari. "**RED: A HIGH LINK UTILIZATION AND FAIR ALGORITHM**" International Journal of Computer Applications Technology and Research 3.7 (2014): 415-419.
14. Singh, Rajeshwar, Abhinav Bhandari, **Mobile Adhoc Security Issues**, International Journal of Research in Information Technology,2015, Vol.3, Issue.3, PP-170-177

## NATIONAL/ INTERNATIONAL CONFERENCES ATTENDED

1. "**Traceback Techniques Against DDoS Attacks: A Comprehensive Review** in the proceedings of 2nd International Conference Computer and Communications Technologies organized by MNLR, NIT Allahabad in September 2011.  
[http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6075132&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs\\_all.jsp%3Farnumber%3D6075132](http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6075132&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D6075132)
2. **Queuing Algorithms Performance against Buffer size and Attack Intensities in DDoS Attacks**, in the proceedings of International Conference on Advance Computing , Networking and Security organized by Department of Computer Science and Engineering, NIT Surathkal, Mangalore in December 2011.This paper also got published in the LNCS Vol. 7135 springer.  
[http://link.springer.com/chapter/10.1007/978-3-642-29280-4\\_62](http://link.springer.com/chapter/10.1007/978-3-642-29280-4_62).
3. **Pattern Recognition** in the proceedings of international Conference on Emerging Technologies in IT Industry organized by the Punjab College of Technical Education , Ludhiana in 2004.
4. **Genetic Algorithm-Evolutionary Approach for Solving Mathematical Expression** in the proceedings of National Conference on Application of Mathematics in Engineering and Technology organized by MIMIT, Malout in 2005.
5. **Identification and Measurement of Neighbor-dependent Nucleotide Substitution Process** in the Proceedings of National Conference on Advancement in Modeling and Simulation 2006 organized by Information Technology department at LLRIET, MOGA.
6. **Facets of Data Mining: The new Frontier in Database** in the proceedings of National conference on Emerging Principles and Practices of Computer Science and Information Technology organized by GNDEC, Ludhiana in 2006.

7. **Security and Privacy issues of RFID** in the Proceedings of National Conference on challenges and oppurtunities in IT organized by RIMT, Mandi Gobindgarh in 2007.
8. **Solving FPGA Routing Problem using Genetic Algorithm** in the proceedings of 9th National Conference oraganized by ISITA at GSBA, Greater Noida in December 2007.
9. **Issues and Challenges of IP Traceback of Distributed Denial of Service Attacks** in the proceedings of National congress on Science and Technology, organized at DAVIET, Jalandhar in May 2013.
10. Singh, Karanpreet, Krishan Kumar, and Abhinav Bhandari. **Classification and State of Art of IP Traceback for DDoS Defense** in the proceedings of international conference of Advances in Recent Technologies in Communication and Computing-ARTCOM September 20-21, 2013.
11. Singh,Satwinder, Krishan Kumar, and Abhinav Bhandari **Study to validate the performance of flooding Based Distributed Denial of Service Attacks**, in the proceedings of 2nd National Conference on Recent Trends in the Computer Science and Applications and Computational Mathematics organized by Indira College of Commerce and Science in December 2013.
12. Shaveta, Er, Abhinav Bhandari, and Krishan Kumar Saluja. **Applying Genetic Algorithm in Intrusion Detection System: A Comprehensive Review**, in the proceedings of international Conference on Recent Trends in information, Telecommunication and Computing ITC by ACEEE in March, 2014.

## RESEARCH AND DEVELOPMENT ACTIVITIES

### M.Tech Thesis Guided

S.No.	Name of Student	Year of Completion	Title of Thesis
1.	Mr. Karanpreet Singh	2013	IP Traceback using Port Marking against flooding Based Distributed Denial of Service Attacks.
2.	Mr. Satwinder Singh	2013	Simulation Study and Vulnerability Analysis of Traceback Techniques Against Flooding Based Distributed Denial of Service Attacks.
3.	Mr. Arshpreet Singh	2013	Study The Impact Of DDoS Attacks On Different Services Using Various AQM Techniques.
4.	Mr. Jatinder Singh	2014	Performance Evaluation of Various Quality of Service (QoS) Parameters of a Wireless Sensor Network under Black hole, SYN Flooding and Wormhole Attacks.
5.	Shaveta	2014	Entropy based Detection of Distributed Denial of Service Attacks.
6.	Parampreet Singh	2014	Inofrmation theroty based traceback approach against DDoS attacks.
7.	Neha Arya	2014	An Active Queue Management solution to Improve Network Performance under Denial of Service Attacks.
8.	Karanpreet Singh Vrik	2014	Performance Analysis of Active Queue Management Techniques under Distributed Denial of Service Attacks.
9.	Lovepreet Kaur	2014	Performance Evaluation of QoS Based Routing Protocols under Sinkhole Attack in Wireless Sensor Network.
10.	Rajeshwar Rana	2014	Classification and Analysis of various Performance Metrics for Defense Framework of Distributed Denial of Service Attacks.
11.	Manish Kumar	2015	Performance Measurement and Tolerance model for Web server Against Application Layer Distributed Denial of Service Attacks.
12.	Nandini Aggarwal	2015	A Novel Approach for Data Level Security with Robust Authentication for LTE Networks.

## Books Published

S.No.	Name of Book	Year of Publication	Name of Publisher	ISSN No.
1.	Operating System	2010	Anand Publicaitons	
2.	Data Structure using C	2016	Eagle Publications	

## Research Indices

S.No.	Name of Agency	Metrics	Citations
1.	Google Scholar	H-index- 5 I-Index-3	70
2.	Researchgate.net	Reads 132	17
3.	Scopus	N-A	8

## AREAS OF INTEREST, EXPERTISE AND CURRENT RESEARCH

Network Security, DDoS Attack Defense Mechanism, Software Defined Networks

## EXTRA CURRICULAR ACTIVITIES

Seminar Presentations, Group Discussions, Organizing Workshops and Conferences

## DECLARATION

*All the above-mentioned information is correct to the best of my knowledge and belief.*

**Dr. Abhinav Bhandari**