

Faculty Profile

Name of Faculty	Dr. Niharika Kumar
Department	Computer Science and Engineering
Qualification	B.E. ,M. Tech, Ph.D.
Designation	Associate Professor
Area of specialization	Networking and Wireless Communication
Date of Joining BNMIT	07.07.2016
Nature of Association (Regular/Contractual/Adjunct)	Regular
Mobile Number	9731400746
e-mail	niharikakumar@bnmit.in niharika.kumar@gmail.com
No. of years of Experience	Teaching:15 years



Educational Qualifications

Degree	Institution	Month & Year of Passing	Class obtained
Ph.D. (CSE)	Visvesvaraya Technological University, Belgavi, India	May,2016	Awarded
M.Tech (NIE)	Visvesvaraya Technological University, Belgavi, India	Feb,2004	74.2
B.E (CSE)	Visvesvaraya Technological University, Belgavi, India	July,2002	68.4

Working Experience

Sl. No.	Designation	Institution	Duration
1.	Associate Professor	Dept. of Computer Science and Engg., BNMIT, Bengaluru, India	July 2016 - till date
2.	Assistant Professor	Dept. of Information Science and Engg. , RNSIT, Bengaluru, India	Aug 2011 – June 2016
3.	Senior Lecturer	Dept. of Computer Science and Engg., PESIT, Bengaluru, India	Aug 2004 – Aug 2011

Subject taught

- Data Communication, Computer Networks, Graph Theory and Combinatorics, Discrete Mathematical Structures, OOPs with C++, Design and Analysis of Algorithms, Mobile Computing, Statistical and Switching in Telecommunication, C# Programming and .NET, Wireless Sensor Networks, Datastructures in C/C++, Computer Organization, Advanced Algorithms, Cloud Computing, Operating Systems.

Research Experience Details:

Ph.D.:

In recent years, with the advent of 4G technologies like WiMAX and LTE, the consumption of media has moved to rich content like streaming video, audio and interactive gaming. To handle these diverse traffic types, WiMAX provides five different types of Quality of Service classes. Unsolicited Grant Service for fixed sized packet types, Real-Time Polling Service for multimedia traffic, Extended Real-Time Polling Service for Voice over IP type of traffic, Non Real-Time Polling Service for moderately delay tolerant traffic and Best Effort for delay tolerant web traffic. Similarly LTE provides nine different types of QoS classes. The research work enhances quality of service at Medium Access Control sub layer of WiMAX and LTE. The research work focuses on three broad areas, namely, Call Admission Control, Bandwidth Allocation to service classes and Packet Scheduling.

Workshops /Seminars Organized:

1. **Member** of the **Organizing Committee** in the 2nd International Conference on Data Engineering and Communication Systems jointly organized by Dept. of Computer Science & Engg. and Information Science & Engg, RNSIT during 28th-29th December 2015.
2. **Convener** of Faculty Development Programme on “Research Frontiers in Networking – A Tool Driven Approach” organized by Dept. of Computer Science & Engineering, BNMIT, Bengaluru from 16th to 21st January, 2017.

Research Publications:

I. In National & International Journals

International Journals:

1. Siddu P. Algur, Niharika Kumar, “Novel user centric, game theory based bandwidth allocation mechanism in WiMAX”, Springer Journal on Human-centric Computing and Information Sciences, 2013, 3:20, doi:10.1186/2192-1962-3-20, ISSN 2192- 1962.
2. Niharika Kumar, Siddu P. Algur, “Three-Strike Algorithm for Bandwidth Allocation and Packet Scheduling”, International Journal of Wireless and Mobile Computing, Inderscience Journal, Volume 7, Number 6, 2014, ISSN 1741-1092(online), ISSN 1741- 1084 (print), pp. 517-52.
3. Siddu P. Algur, Niharika Kumar, ”Novel Graded, Priority Oriented Admission Control Mechanism in WiMAX”, Turkish Journal of Electrical Engineering and Computer Science, 2014, ISSN 1300-0632.
4. Siddu P. Algur, Niharika Kumar, “Novel MIME Type and Extension Based Packet Classification Algorithm in WiMAX” International Journal of Advanced Computer Science and Applications (IJACSA), Volume 4, Issue 8, 2013, ISSN: 2156- 5570 (Online), pp. 9-13.
5. Niharika Kumar, Balasubramanya Murthy, “User Oriented Network Aware Bandwidth Allocation in WiMAX”, International Journal on Recent Trends in Engineering & Technology, Volume 5, Number 1, March 2011, ISSN 2158-5555 (Print), pp. 8-14.
6. Siddu P. Algur, Niharika Kumar, Amitkeerti M. Lagare, *User Oriented Quality of Service Framework for WiMAX*, Wireless Communications and Networks - Recent Advances, Intech Publishers, Croatia, March 2012, ISBN 978-953-51-0189-5, pp. 405-428.

7. Bhanu Prakash HN, Niharika Kumar, "Scaling Distributed Associative Classifier using Big Data", International Research Journal of Engineering and Technology, Volume 5, Issue 6, June 2018, e-ISSN:2395-0056, p-ISSN:2395-0072.
8. Vijayalakshmi, Niharika Kumar, "Survey on Risk Estimation of Chronic Disease using Machine Learning", International Research Journal of Engineering and Technology, Volume 6, Issue 6, June 2019.

International Conferences:

1. Siddu P. Algur, Niharika Kumar, "Mutually shared bandwidth allocation mechanism in IEEE 802.16e", IEEE Symposium on Wireless Technology and Applications (ISWTA), Malaysia, 2013, ISSN : 2324-7843, ISBN: 978-1-4799-0155-5 (Print), pp.142-146.
2. Siddu P. Algur, Niharika Kumar, "Novel Priority Based Reservation Algorithm for Admission Control in WiMAX", International Conference on Data Engineering and Communication Systems, ICDECS 2011, Bangalore, December 2011, pp. 310-313.
3. Niharika Kumar, K. N. Balasubramanya Murthy, Amitkeerti M. Lagare, "DBAM: Novel User Based Bandwidth Allocation Mechanism in WiMAX", Second International Conference on Advances in Communication, Network, and Computing, CNC 2011, Bangalore, India, Volume 142, March 2011, ISBN 978-3-642-19541-9 (Print), ISBN 978-3-642-19542-6 (Online), pp. 229- 236.
4. Niharika Kumar, Akshata D Joshi, Ashwini V, Sreevidya S Sastry, Tanuja G, "A Hybrid Scheduling Algorithm for Mobile WiMax Networks", at the International Conference on Electrical, Electronics & Computer Engineering, ICEECE 2013, Delhi, May 2013, pp 54-56.
5. Niharika Kumar, "IoT Architecture and System Design for Healthcare Systems", IEEE International Conference on Smart Technologies for Smart Nation, 17-19 August 2017.
6. Niharika Kumar, "Sentiment Analysis of Twitter Messages: Demonetization a Use Case", IEEE 2nd International Conference on Computational Systems and Information Technology for Sustainable Solution, 21-23 December 2017.

National Conferences:

1. Ashwini, Niharika Kumar, "An Efficient Connection Admission Control Bandwidth Reservation Scheme for WiMAX Networks", AMC College of Engineering, Bangalore, 15th May, 2013.

Invited Talks Delivered:

1. Delivered a lecture on "Design and Analysis of Algorithms" at Bahubali College of Engineering on 5th May 2012.

Participation in Training courses/Seminars/Workshops

1. Participated in Two-Days Faculty Development Programme on "Computer Network Lab" at Jyothy Institute of Technology from 19th to 20th July 2019.
2. Participated in Five days Faculty Development Programme on "IoT and AI in Robotic Automations" at BNMIT from 24th to 28th June 2019.
3. Participated in Five days Faculty Development Programme on "Data Analytics" at BNMIT from 21st – 25th Jan, 2019.
4. Participated in Five days Faculty Development Programme on "Biomedical Signal Processing" at BNMIT from 11th – 15th June, 2018.

5. Two Days IEEE SmartTech Workshop on “IoT and Data Analytics” on 18th and 19th November 2016 in Bengaluru.
6. Participated in Quality Improvement Programme on “Innovative Teaching Methods” conducted at BNMIT from 18th – 23rd July 2016.
7. Participated in Six days Faculty Development Programme on “IBM-Bluemix for IoT & Security” organized at BNMIT from 11th- 16th July 2016.
8. Two-day workshop on “Research Methodologies and Latex” organized by VTU e-Learning Centre, Mysore on November 21st and 22nd ,2011 at Vidyavardaka College of Engineering, Mysore.
9. Training on J2ME in Samsung as a part of Samsung innovator program at PESIT in 2010.
10. Two Days Faculty Development Programme on “Programming in C and Data Structures” at RNSIT held during 24th-25th ,2014.
11. Training on Networking at IISC, Bangalore in 2008.

Recruitment Committee for DRDO

- Part of the recruitment committee for selection to the Junior Scientist for DRDO in the year 2011.

IEEE Reviewer

- IEEE Reviewer for the 3rd IEEE International Conference on Electrical, Electronics, Communications, Computer Technologies and Optimization Techniques (ICEECCOT) organized by GSSS Institute of Engineering and Technology for Women, Mysuru on 14th and 15th December 2018.

Grants and Proposals:

- Received DST Travel grant to present IEEE paper in Malaysia in the year 2013.

Personal Details:

- **Date of Birth:** 21 - 08 –1979; **Sex:** Female.
- **Husband Name:** Mr. Amitkeerti M. Lagare
- **Son Name:** Dhruv Amitkeerti Lagare

NIHARIKA KUMAR