

## Annexure

1. Name : Dr. Shubhangi Pravin Kharche

2. Address for Communication: 401, D-120, Jain Park, Sector-20, Nerul (W), Navi Mumbai 400706

3. Awards:

**Best Paper Award:**

- S. Kharche and S. Pawar, "Node level energy consumption analysis in 6LoWPAN network using real and emulated Zolertia Z1 motes," 2016 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Bangalore, India, 2016, pp. 1-5 (**Best Paper Award**)
- Shubhangi Kharche, Dr. Alka Mahajan, "Performance of IPv4 and IPv6 in Client Server Environment" proceedings of the conference NCRTWWC-2013, 15-16 March, SIES GST, Nerul, Navi Mumbai. (**Best Paper Award**)
- International Scientists Awards on Engineering Science and Medicine, **Women Researcher award**, 10 and 11 September 2021, VDGGOOD Technology Factory, Coimbatore.

**4. Intellectual Property Rights**

- I. Patents filed: "WEARABLE PRENATAL AND MATERNAL HEALTH MONITORING SYSTEM"
- II. Copyrights:
  1. Conceptual Framework for 6G Intelligent Healthcare
  2. Poem: 6G Healthcare
  3. Analogy between 6G communication network and animal kingdom
  4. Conceptual framework for Webcrawler

**5. Thesis:**

<http://hdl.handle.net/10603/305341>

Title of Thesis: Performance analysis of 6LoWPANs: IPv6 over low power wireless personal area network

**6. Publications**

**I. Journal Papers:**

1. Kharche, S. and Dere, P., 2022. Interoperability Issues and Challenges in 6G Networks. *Journal of Mobile Multimedia*, pp.1445-1470.
2. Kharche, Shubhangi, and Sanjay Pawar. "Optimizing network lifetime and QoS in 6LoWPANs using deep neural networks." *Computers & Electrical Engineering* 87 (2020): 106775.
3. Kharche, Shubhangi, and Sanjay Pawar. "Improving network lifetime and speed for 6LoWPAN networks using machine learning." *International Journal of Intelligent Systems Technologies and Applications* 19, no. 4 (2020): 307-321.
4. Moorthy, Prakash, P. Vishnupriya, N. Poornima, R. Priyadarshini, and Shubhangi Kharche. "Automatic Railway Level Crossing Using LoRa." *IJRAR*
5. Pawar Pitambar, Patil Akshay, Rathod Hardik, Hadale Ravi, and Kharche Shubhangi. IoT Based Landslide Detection and Monitoring, *IJRAR*, 2019/5, Volume 6, Issue 2, PP8
6. Abhinav Sreesan, Anirudh Shankar, Vignesh Vaidyanathan, Shubhangi Kharche, "Machine Learning Based Autonomous Road Maintenance System Using Cold Lay Asphalt" *Journal : Helix, The Scientific Explorer*, Vol 8, 10.29042/2018-4002-4006, 2018/8/31
7. S. Kharche and S. Pawar, " Stability Model for RPL Using Minimum Rank Hysteresis Objective Function in 6LoWPAN", *IJPAM*, Volume 118, No. 5, 2018, 731-737, ISSN: 1311-8080 (printed version); ISSN: 1314-3395 (on-line version).
8. Shubhangi Kharche, Dr Pramod Patil "Performance Test Comparison of Internet Layer Protocols on CentOS and 2007 for Data, DNS and Voice Traffic", *International Journal of Computer Applications* (0975 – 8887) Volume 62– No.2, January 2013, pp 8-13
9. Prachi Jain, Shubhangi Kharche, "Effectuation of Blowfish Algorithm using Java Cryptography", *International Journal Of Scientific & Engineering Research* Volume 4, Issue 5, May-2013, Issn 2229-5518, pp1091-1400.
10. Makesh Iyer, Srikant Pai, Sneha Badri, Shubhangi Kharche 'Embedded Dam Gate Control System using 'C' and Visual Basic', *International Journal of Computer Applications* (0975 – 8887) Volume 69– No.2, May 2013, pp 32-37

## **II. International Conferences:**

### **Paper Presentations:**

1. S. Meshram, N. Naik, M. VR, T. More and S. Kharche, "Conversational AI: Chatbots," 2021 International Conference on Intelligent Technologies (CONIT), 2021, pp. 1-6, doi: 10.1109/CONIT51480.2021.9498508.
2. G. Ramanathan, D. Chakrabarti, A. Patil, S. Rishipathak and S. Kharche, "Eye Disease Detection Using Machine Learning," 2021 2nd Global Conference for Advancement in Technology (GCAT), 2021, pp. 1-5, doi: 10.1109/GCAT52182.2021.9587740.
3. Meshram, S., Naik, N., Megha, V.R., More, T. and Kharche, S., 2021, August. College Enquiry Chatbot using Rasa Framework. In 2021 Asian Conference on Innovation in Technology (ASIANCON) (pp. 1-8). IEEE.
4. Sahu, A., Singh, A., Pandita, S., Walimbe, V. and Kharche, S., 2021. Detection and Correction of Potholes Using Machine Learning. In Cybernetics, Cognition and Machine Learning Applications (pp. 139-151). Springer, Singapore.
5. Shubhangi Kharche and Sanjay Pawar "Effect of Radio Link and Network Layer Parameters on Performance of Zolertia Z1 Motes based 6LoWPAN", Paper Accepted in IEEE International Conference on "Computing Communication and Networking technologies" 8th ICCCNT, July 3-5, 2017, IIT Delhi, India.
6. S. Kharche and S. Pawar, "Node level energy consumption analysis in 6LoWPAN network using real and emulated Zolertia Z1 motes," 2016 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Bangalore, India, 2016, pp. 1-5 (Best Paper Award).
7. Shubhangi Kharche, Dr. Sanjay Pawar , Dr. Shikha Nema “ Impact of Retransmission Policies on Performance of Concurrent Multipath Transfers in Wireless Heterogeneous Networks”, International Conference on Advances in Electronics, Computers and Communications (ICAECC), Oct 10 and 11 ,2014 (IEEE Conference ID -32069) held at Bangalore.
8. Shubhangi Kharche, Dr. Alka Mahajan “ IPv4 and IPv6 performance comparison for simulated DNS and VoIP traffic in Windows 2007 and Windows 2008 client server environment ”, World Congress on Information and Communication Technologies (WICT), 2012,pp 408 – 412 (published in IEEE Xplore).
9. Shubhangi Kharche, Dr. B.D.Biranale, “ISATAP Using Windows Platform: An efficient solution for IPv4 To IPv6 Transition”, international conference Emerging Technologies and Applications in Engineering, Technology and Sciences held at Saurashtra University, Rajkot, Gujarat on 13th and 14th Jan 2008.
10. Shubhangi Kharche, Dr. B.D.Biranale, “ IPv4 To IPv6 transition using Windows OS”, international conference held at Sardar Patel Institute of Technology, Andheri, Mumbai on 4th and 5th Feb 2008

## **III. National Conferences:**

### **Paper Presentations:**

1. Shubhangi Kharche, Dr. Alka Mahajan, “Performance of IPv4 and IPv6 in Client Server Environment” proceedings of the conference NCRTWWC-2013, 15-16 March, SIES GST, Nerul, Navi Mumbai. (Best Paper Award)
2. Shubhangi Kharche, “Application of sensors in monitoring weather parameters”, proceedings of the conference NCETCI-2007, 19-20 Oct, TSEC, Bandra, Mumbai.
3. Shubhangi Kharche, Ekta Satija “Information Technology for Rural Development in India”, proceedings of the conference RTIT-2007, 9-10 Dec, SSGMCE, Shegaon, Buldhana.
4. Shubhangi Kharche, “Security Considerations for Voice Over IP Systems”, proceedings of the conference ETSPC-2007, 27-29 Dec, MAE, Pune.
5. Shubhangi Kharche, “Network Security Using IPv6”, proceedings of the conference NCTIAC-2007, 28-29 Dec, DMCE, Navi Mumbai.
6. Shubhangi Kharche, Yogesh kolhe, Lalit Jawale, Pushkar Prasad,” Log Prefixing of Firewall”, proceedings of the conference SIESNCC-2008, 13-14 March, SIESGST, Nerul, Navi Mumbai.

## **IV. Book Chapters:**

1. Kharche J., Kharche S., Kharche M. (2021) Case Study on COVID-19 Scenario over Highly Affected States of India. In: Bhatia S., Dubey A.K., Chhikara R., Chaudhary P., Kumar A. (eds) Intelligent Healthcare. EAI/Springer Innovations in Communication and Computing. Springer, Cham. [https://doi.org/10.1007/978-3-030-67051-1\\_18](https://doi.org/10.1007/978-3-030-67051-1_18)

2. Shubhangi Kharche and Rizwana Shaikh, Blockchain for Wearable Internet of Things in Healthcare, Intelligent Interactive Multimedia Systems for e-Healthcare Applications, CRC Press July 22.

#### 7. Key Notes/ Speeches/Special Lectures:

- Delivered a talk on "Introduction to 6G" in "STTP on "Recent Trends in Wireless Technologies", SIESGST, Nerul, Navi Mumbai.
- Delivered a talk on "Voyage to Next Generation Networking" at K C College of Engineering on August 20, 2014 for B.E (EXTC and ETRX) Students.
- Delivered a talk on "Emerging Prospects of IoT Applications and its Challenges" at Hindustan college of Arts, Science under national level webinar.
- Delivered a Webinar on Journey From Computer Communication Networks to Wireless Networks and IoT 15.03.2021
- Delivered a talk on Advance Antenna Design in SDP held at SIESGST from June 27 to July 01, 2021

#### 8. Conferences, Workshops and Seminars Conducted

Sr. No.	Year	Details of Conferences/Workshop/Seminars Conducted	From	To	Period	Total
1.	2021	Co-ordinated ISTE approved STTP on "Recent Trends in Wireless Technologies" from Jan 18 to Jan 23, 2021 at SIESGST, Nerul.	18/01/2021	23/01/2021	One week	2021 (one)
2.	2020	Conducted workshop on CCNA routing, switching and server configuration for TE students.	3/01/2020	08/01/2020	One week	2020 (one)
3.	2019	Conducted workshop on CCNA routing, switching and server configuration for TE students.	4/01/2019	9/01/2019	One week	2019 (one)
4.	2018	Conducted workshop on CCNA routing, switching and server configuration for TE students.	6/02/2018	12/02/2018	One week	2018 (one)
5.	2017	Co-ordinated ISTE-AICTE STTP on "FPGA Design using VHDL" from July 07 to July 12, 2017	07/07/2017	12/07/2017	One week	2017 (two)
6.	2017	Co-Ordinated Summer Industrial Training Program on Embedded Systems and IoT during June 19 to July 10, 2017 by Eduvance at SIESGST.	19/06/2017	10/07/2017	3 weeks	2017
7.	2016	Co-Ordinated Summer Industrial Training Program on Embedded Systems and IoT during June 14 to July 07, 2016 by Eduvance at SIESGST.	14/06/2016	07/07/2016	3 weeks	2016 (one)
8.	2015	Co-Ordinated Summer Industrial Training Program on Embedded Systems and IoT during (Raspberry and Python) August 10 to August 28, 2015 by Eduvance at SIESGST.	10/08/2015	28/08/2015	3 weeks	2015 (one)
9.	2014	Conducted workshop on "LATEX" for faculty on July 19, 2014 at SIESGST	19/07/2014	19/07/2014	1 Day	2014 (two)
10.	2014	Conducted two days workshop on "Network Simulator NS-2" for faculty on July 7 and 8 2014 at SIES GST.	07/07/2014	08/07/2014	2 Days	
11.	2013	Convened a National Conference: National Conference on Recent Trends in Wired and Wireless Communication; NCRTWWC-2013, 15-16 March, SIES GST, Nerul, Navi Mumbai.	15/03/2013	16/03/2013	2 Days	2013 (one)

#### 9. Specialized Training Attended

Sr. No.	Year	Details/Name of the Organization	From	To	Period
1.	2020-21	STTP on "Recent Trends in Wireless Technologies", SIESGST, Nerul, Navi Mumbai	Jan 18, 2021	Jan 23, 2021	1 week

2.	2019-20	Spoken tutorial technology, SKNCOE, Pune and IIT Bombay	May 18, 2020	May 22, 2020	1 week
3.	2019-20	Research methodology and tools, SITRC, Nashik.	May 11, 2020	May 15, 2020	1 week
4.	2019-20	Research, funding projects and IPR, KCCOE, Thane	May 07, 2020	May 10, 2020	1 week
5.	2019-20	AICTE ISTE approved Whatsapp outcome based education FDP, DYCOE Pune.	March 24, 2020	April 14, 2020	3 weeks
6.	2019-20	NBA accreditation and teaching learning in engineering, NPTEL (IIT Kharagpur) (online)	January 2020	March 2020	12 weeks
7.	2019-20	Introduction to learning analytics, NPTEL (IIT Bombay) (online)	August 2019	Sept 2019	4 weeks
8.	2018-19	Computer Networks and Internet Protocol, NPTEL (IIT Kharagpur) (online)	July 2018	October 2018	12 weeks
9.	2017-18	Two days workshop on “ Introduction to Machine Learning” held under National Mission on Education through ICT(MHRD) by IIT Kharagpur (online) SIESGST	December 16, 2017	December 17, 2017	Two days
10.	2016-17	NPTEL, IIT Kharagpur (online)	February 2017	March 2017	Two months
11.	2015-16	One Week ISTE approved STTP on “Issues in 5G Wireless Networks” at UMIT, SNDT, Juhu Mumbai.	June 21, 2016	June 25, 2016	One week
12.	2015-16	Training by D-link on switching Technology in February 2016 at SIESGST	February 21, 2016	February 22, 2016	Two days
13.	2015-16	Workshop on Embedded System Design using ARM Mbed	July 09, 2015	July 11, 2015	Three Days
14.	2014-15	STTP on IoT by Mr. Harish Chander at SIESGST	June 22, 2015	June 24, 2015	Three Days
15.	2013-14	ISTE approved STTP on Computer Networking Organised by IITB on June 23-29 and June 30-July 5, 2014 at SIES GST remote center.	June 23-29, 2014	June 30-July 5, 2014	Two weeks
16.	2009-10	ISTE approved STTP on Convergence of Technologies at Terna Engg College in March 2008.	July 06, 2009	July 10, 2009	One week
17.	2007-08	One-week Short Term Training Program on soft skills – “The Art of Communication” held at SIESGST, Nerul, Navi Mumbai.	7th Jan 2008	11th Jan 2008	One week
18.	2006-07	Thirty-hour one-week Certificate course on “Ad hoc & Sensor Networks” conducted by Department of Computer Science, Mumbai University.	11th Dec 2007	15th Dec 2007	One week
19.	2006-07	Short Term Training Program on Digital Image Processing, held at SIESGST, Nerul.	18th Dec 2006	29th Dec 2006	Two week
20.	2006-07	Three days staff development program held at SIESGST, Nerul, Navi Mumbai	July 3, 2006	July 05, 2006	Three days
21.	2003-04	Two days staff development program held at GCOE, Jalgaon	October 03, 2003	October 04, 2003	Two days

#### 10. Conferences Attended

Sr. No.	Year	Details of Conference	From	To	Period
1.	2020	Ashish Sahu, Aadityanand, Sahil Pandita, Varun Walimbe and Shubhangi Kharche, "Detection and correction of potholes using machine learning", Springer 2nd Internal conference on "Cybernetics, Cognition and Machine Learning Applications" ICCCMLA, August 29-30, 2020	29/08/2020	30/08/2020	2 Days
2.	2017	Shubhangi Kharche and Sanjay Pawar "Effect of Radio Link and Network Layer Parameters on Performance of Zolertia Z1 Motes based 6LoWPAN", Paper Accepted in IEEE International Conference on "Computing Communication and Networking technologies" 8th ICCCNT, July 3-5, 2017, IIT Delhi, India.	3/7/2017	5/7/2017	3 Days

3.	2016	S. Kharche and S. Pawar, "Node level energy consumption analysis in 6LoWPAN network using real and emulated Zolertia Z1 motes," 2016 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Bangalore, India, 2016, pp. 1-5	6/11/2016	9/11/2016	4 Days
4.	2014	Shubhangi Kharche, Dr. Sanjay Pawar ,Dr. Shikha Nema "Impact of Retransmission Policies on Performance of Concurrent Multipath Transfers in Wireless Heterogeneous Networks", International Conference on Advances in Electronics, Computers and Communications (ICAIECC), Oct 10 and 11, 2014 (IEEE Conference ID -32069) held at Bangalore.	10/10/2014	11/10/2014	2 Days
5.	2012	Shubhangi Kharche, Dr. Alka Mahajan "IPv4 and IPv6 performance comparison for simulated DNS and VoIP traffic in Windows 2007 and Windows 2008 client server environment ",World Congress on Information and Communication Technologies (WICT), 2012, pp 408 – 412 (published in IEEE Xplore).	30/10/2012	2/11/2012	4 Days
6.	2008	Shubhangi Kharche, Dr. B.D.Biranale,"ISATAP Using Windows Platform: An efficient solution for IPv4 To IPv6 Transition", international conference Emerging Technologies and Applications in Engineering, Technology and Sciencesheld at Saurashtra University, Rajkot, Gujarat on 13th and 14th Jan 2008.	13/01/2008	14/01/2008	2 Days
7.	2008	Shubhangi Kharche, Dr. B.D.Biranale, " IPv4 To IPv6 transition using Windows OS", international conference held at Sardar Patel Institute of Technology, Andheri, Mumbai on 4th and 5th Feb 2008	4/2/2008	5/2/2008	2 Days
8.	2013	Shubhangi Kharche,Dr. Alka Mahajan, "Performance of IPv4 and IPv6 in Client Server Environment" proceedings of the conference NCRTWWC-2013, 15-16 March, SIES GST, Nerul, Navi Mumbai.	15/03/2013	16/03/2013	2 Days
9.	2007	Shubhangi Kharche, "Application of sensors in monitoring weather parameters" ,proceedings of the conference NCETCI-2007, 19-20 Oct, TSEC, Bandra, Mumbai.	19/10/2020	20/10/2020	2 Days
10.	2007	Shubhangi Kharche, Ekta Satija "Information Technology For Rural Development in India", proceedings of the conference RTIT-2007, 9-10 Dec, SSGMCE, Shegaon, Buldhana.	9/12/2007	10/12/2007	2 Days
11.	2007	Shubhangi Kharche," Security Considerations for Voice Over IP Systems", proceedings of the conference ETSPC-2007,27-29 Dec, MAE, Pune.	27/12/2007	29/12/2007	3 Days
12.	2007	Shubhangi Kharche,"Network Security Using IPv6", proceedings of the conference NCTIAC-2007, 28-29 Dec, DMCE, Navi Mumbai.	28/12/2007	29/12/2007	2 Days
13.	2008	Shubhangi Kharche, Yogesh kolhe, Lalit Jawale, Pushkar Prasad," Log Prefixing of Firewall", proceedings of the conference SIESNCC-2008,13-14 March, SIESGST,Nerul,Navi Mumbai.	13/03/2013	14/03/2013	2 Days

#### 11. Workshops attended

Sr. No.	Year	Details of Workshop	From	To	Period
1.	2017	Attended one day workshop on "Outcome based learning (NBA )" "at SIESGST on 30.06.2017 by Dr. S. S. Rathod	30.06.2017	30.06.2017	1 Day
2.	2014	Attended three days Workshop on NS2 at TEC, Nerul on Feb 7-9,2014	07/02/2014	09/02/2014	3 Days
3.	2013	Workshop on "LATEX and Xfig " by Dr. Sanjay Pawar and Prof Sanjay Shitole at SNDT, Juhu on September 21, 2013	21/09/2013	21/09/2013	1 Day

4.	2012	One day workshop on Question Bank and Blue print preparation at K J Somaiya.	6/07/2012	6/07/2012	1 Day
5.	2012	One day workshop on 'Eagle Software' for PCB making on July 5,2012 at siesgst, nerul	5/07/2012	5/07/2012	1 Day
6.	2012	One day workshop on 'Proteus VSM' on July 4,2012 at siesgst, nerul	04/07/2012	04/07/2012	1 Day
7.	2007	Workshop on "Basics of Electrical and Electronics Engineering" organized by Department of Electronic Engineering, University of Mumbai on 25th Aug 2007 at DMCE, Airoli, Navi Mumbai.	25/08/2007	25/08/2007	1 Day
8.	2007	Workshop on "Remote Sensing and Geographical Information Systems in Environmental Applications" held at SIES- IIEEM, Nerul, Navi Mumbai on 6th and 7th Oct 2007	06/10/2007	07/10/2007	2 Days
9.	2005	Workshop on Digital signal Processing on 1st Oct 2005 at TSEC Bandra.	01/10/2005	01/10/2005	1 Day

## 12. Seminars attended

Sr. No.	Year	Details of Seminar	From	To	Period
1.	2020	Attended webinar on Emerging Trends Post COVID-19, organised by IETE, DBIT on May 16, 2020.	16/05/2020	16/05/2020	1 Day
2.	2020	Attended webinar on "How to improve citation and write research papers" organised by Sir Visvesvaraya Institute of Technology, Nashik on 01 May, 2020	01/05/2020	01/05/2020	1 Day
3.	2020	Faculty awareness program on outcome based education (OBE) and NBA accreditation, organised by Sinhgad Institute of Technology and Science, Pune on 05 May, 2020.	05/05/2020	05/05/2020	1 Day
4.	2020	Attended Webinar series on Machine learning and Artificial Intelligence from May 23 to May 27, 2020 conducted by IEEE-SPIT, Mumbai.	23/05/2020	27/05/2020	5 Days
5.	2016	Attended and Coordinated health check up camp ( by Dr Firoz Sarang) under women development cell at SIESGST on 29.07.2016	29/07/2016	29/07/2016	1 Day
6.	2016	Attended Central Training-Interactive Program on health management by Dr Mini Namapootri at SIES Management on 22/06/2016.	22/06/2016.	22/06/2016.	1 Day
7.	2016	Faculty Development Program on Value Education at SIESGST on June 28, 2016.	28/06/2016	28/06/2016	1 Day
8.	2014	Seminar on "Overview of C, C++,Core Java " by Prof Dhaygude at SIES GST on August 28 ,2014	28/08/2014	28/08/2014	1 Day
9.	2013	Seminar on "Cloud Computing" by Dr. K.K. Ramakrishnan of AT & T on August 21,2013 at SNDT ,Juhu.	21/08/2013	21/08/2013	1 Day
10.	2013	Seminar on "Telecom Revolution,An era of Wireless and Dawn of POTS" by Mr. Chirag Warty at SNDT, Juhu on August 07,2013.	07/08/2013	07/08/2013	1 Day
11.	2013	Seminar on Credit Grading System at SIES GST by Dr. Mansi Karkare on July 10 ,2013.	10/07/2013	10/07/2013	1 Day
12.	2013	Seminar on Chanakya and his Teachings at SIES GST by Mr. Shetty on July 06,2013	06/07/2013	06/07/2013	1 Day
13.	2014	PhD Orientation Program at SNDT Churchgate on March 4, 2014.	04/03/2014	04/03/2014	1 Day
14.	2014	Seminar on Lifestyle Management by Dr. Shivakrishnan at SIESGST ,Nerul, 2013-14.	01/03/2014	01/03/2014	1 Day

15.	2013	Seminar on Steady State Analysis by Dr. Hiromasa Haneda at SIES GST, 2012-13.	11/08/2013	11/08/2013	1 Day
16.	2012	Advances in Computer field held at SIESGST, Nerul, Navi Mumbai, 2011-12	13/11/2012	13/11/2012	1 Day
17.	2008	“Application of Microwave Devices in treatment of cancer” held at SIESGST, Nerul, Navi Mumbai, 2007-08	07/04/2008	07/04/2008	1 Day
18.	2010	“Electromagnetics” held at SIESGST, Nerul, Navi Mumbai, Feb 06, 2010.	06/02/2010	06/02/2010	1 Day
19.	2010	“Computer Network” held at SIESGST, Nerul, Navi Mumbai, April 09, 2010.	09/04/2010	09/04/2010	1 Day
20.	2005	“Memory Management” held at SIESGST, Nerul, Navi Mumbai, 2004-05	26/09/2004	26/09/2004	1 Day
21.	2005	“Time Management and Stress Management’ held at GCOE, Jalgaon, 2004-05	24/02/2005	24/02/2005	1 Day