

CURRICULUM VITAE



Dr. Hemanth Kumar

Assistant Professor

Department of Master of Computer Applications

J N N College of Engineering (JNNCE)

Savalanga Road, Navule

Shivamogga-577204, India

E-mail: hemanthkumar.ml@gmail.com|hemanthkumar@jnnce.ac.in

Contact Number: +(91) 9739786070

Employee Code No.: 10188

ABOUT HEMANTH KUMAR

Hemanth Kumar received the B.Sc degree (Electronics, Mathematics & Computer Science) in 2004 and the M.Sc degree(Computer Science) in 2006 from SRNMN College of Applied Science, Shivamogga and Kuvempu University respectively. He have obtained the Ph. D degree from Bangalore University. He is currently working as Assistant Professor in the Department of Master of Computer Applications, J N N College of Engineering (JNNCE), Shivamogga. He is involved in research and teaching MCA students and has more than 16 years of teaching experience. He has published 10 papers in International Journals and Conferences. His current research lies in the area of Wireless Sensor Networks and *IoT*.

OBJECTIVE

To build a good career in research, development and teaching fields in the challenging and creative environments.

EDUCATION

1. **Doctoral:** Completed *Ph. D* in Computer Science from Bangalore University, Jnana Bharati Campus, Bengaluru in the year 2022.
Thesis Title: Traffic Engineering Models in Wireless Sensor Networks.
Research Supervisor: Dr. S M Dilip Kumar
2. **Post Graduation:** *M.Sc* in Computer Science with First Class Distinction (72%), Dept. Of PG Studies And Research In Computer Science, Kuvempu University, Shivamogga, 2006.
3. **Under Graduation:** *B.Sc* in (Electronics, Mathematics and Computer Science) from SRNMN College Of Applied Sciences, Shivamogga in 2004 with 65%.

TEACHING EXPERIENCE

1. **Assistant Professor** from 01-08-2011 in the Department of Master of Computer Applications, J N N College of Engineering (JNNCE), Shivamogga 577204, Karnataka.
2. **Lecturer** from 15-02-2007 to 31-07-2011 in the Department of Master of Computer Applications, J N N College of Engineering (JNNCE), Shivamogga 577204, Karnataka.
3. **Lecturer Consolidated basis** from 11-8-2006 to 14-02-2007 in the Department of Master of Computer Applications, J N N College of Engineering (JNNCE), Shivamogga 577204, Karnataka.

Experience includes teaching MCA students, research, guiding projects, *BOE* member for Kuvempu University and Visvesvaraya Technological University (VTU), setting papers for VTU examinations and Kuvempu University examinations, maintenance of computers and other equipments in the Institution, organizing seminars, conferences, workshops, etc.

ADMINISTRATIVE EXPERIENCE

1. *Coordinator* for NPTEL activities in the Department of Master of Computer Applications, J N N College of Engineering from 01.07.2019 till date.
2. *Member of Research Committee*, J N N College of Engineering from 29.06.2022 till date.
3. *Member of Hostel and canteen Advisory Committee*, J N N College of Engineering from 11.04.2022 till date.
4. *Member of Examination Committee* for J N N College of Engineering for smooth conduction of Internals and VTU examinations from 01.07.2018 till date.
5. AICTE online/offline approvals work from 2014 to 2020 of Department of Master of Computer Applications, J N N College of Engineering, Shivamogga.

RESEARCH INTERESTS (Current)

Wireless Sensor Networks and Internet of Things (IoT).

RESEARCH PUBLICATIONS

- **Journal (International)[06]**

1. **Hemanth Kumar and Dilip Kumar S M**, “AQM Model to Estimate and Mitigate Congestion using Priority RED in WSN”, (*International Journal of Computing and Digital Systems*), Vol. 12, Iss. 1, pp. 895-907, Oct. 2022(SJR Rank: Q3).
2. **Hemanth Kumar and Dilip Kumar S M**, “Tree Reconstruction using Energy Aware Sink Mobility to Prolong Network Lifetime in WSN”, *International Journal of Ad Hoc and Ubiquitous Computing (IAHUC)*, Inderscience Publishers, Jul. 2020, (ISSN: 1743-8225, Impact Factor: 0.489, SJR Rank: Q3).

3. **Hemanth Kumar, Kusumamba B, Dilip Kumar S M**, “Modified AODV Routing in WSN Using Neighboring Node Caching”, *International Journal of Computer Engineering and Applications*, vol.12, Iss. 1, Feb. 2018 (ISSN 2321-3469, Impact Factor: 4.382).
 4. **Hemanth Kumar, S M Dilip Kumar and Sunitha G P**, “Optimal Multipath Routing using BFS for Wireless Sensor Networks”, *Journal of Network Communications and Emerging Technologies (JNCET)*, EverScience Publishers, vol. 7, no. 3, pp. 22-29, Mar. 2017 (ISSN: 2395-5317, Impact Factor: 4.33).
 5. **Nasim R and Hemanth Kumar**, “Smart Shoes: Wearable Navigation Assistant for Visually Impaired People”, *International Journal of Advanced Research in Science, Communication and Technology*, vol. 2, Iss. 6, pp. 257-263, Jun. 2022 (ISSN (Online) 2581-9429).
 6. **Spoorthy M R and Hemanth Kumar**, “Detection of Forest Fire Areas using Machine Learning”, *International Journal of Advanced Research in Science, Communication and Technology*, vol. 2, Iss. 2, pp. 699-704, Jun. 2022 (ISSN (Online) 2581-9429).
- **Conference (International)[02]**
 7. **Hemanth Kumar and Dilip Kumar S M**, “EASM: Energy-Aware Sink Mobility Algorithm to Prolong Network Lifetime in WSN”, *In Proc. of the 16th IEEE India Council International Conference (INDICON)*, Rajkot, Dec. 2019 (Published in IEEE Xplore, ISBN: 978-1-7281-2328-8).
 8. **Hemanth Kumar, Dilip Kumar S M and Nagarjun E**, “Congestion Estimation and Mitigation using Fuzzy System in Wireless Sensor Network”, *Presented in International Conference on Computational Electronics for Wireless Communications (ICWC-2021)*, on 11th and 12th June 2021, To be published in LNNS, Springer.
 - **Conference (National)[02]**
 9. **Hemanth Kumar, Kusumamba S and S M Dilip Kumar**, “A Neighborhood Caching Scheme for Routing in WSN using Modified AODV”, *National Conference on Computational Sciences and Soft Computing (NCCSSC-2017)*, Dec. 2017.
 10. **Shilpa J, Shruthi T. S, S M Dilip Kumar, Hemanth Kumar and B P Vijaya Kumar**, “Performance Analysis and Comparison of MANET Routing Protocols with ns-2”, *In Proc. of the National Conference on Computer Networks (NCCN’ 09)*, Narosa Publishers, Bangalore, pp. 132-137, Feb. 2009 (ISBN 978-81-8487-025-1).

RESEARCH PROJECTS

1. *Investigator*, ‘JNN Spraying Machine for Arecanut and Black Pepper’ , Karnataka Science and Technolgoey Academy, Department of Science and Technology, Government of Karnataka, [Grant NO KSTA/STS/LTR.NO.18/31/2021-22] April 2022 [Sanctioned amount: 35,000.00] (Ongoing).

INVITED TALKS/WEBINARS [02]

1. *Application development using Java and MySQL*, “Webinar”, conducted at Department of ISE, J N N College of Engineering, Shivamogga on 08.01.2021.

2. *Linkage between OTcl and C++*, “Two days National Workshop on Simulation of Wireless Networks using NS2”, held at Guru Nanak Dev Engineering College, Bidar, from 02.04.2012 to 03.04.2012.

SEMINARS / WORKSHOPS / CONFERENCES / SHORT TERM COURSES ATTENDED

1. Four days workshop on **Data Warehouse and Data Mining** Organized by Dept. of Computer Science and Engineering, Sponsored by J N N College of Engineering, Shivamogga, from 02-01-2007 to 05-01-2007.
2. Six days Workshop on **Soft Skills** conducted by Infosys Technologies Limited at Infosys, Mysore from 25-03-2007 to 30-03-2007.
3. Two weeks Faculty Development Programme on **Entrepreneurship**, Sponsored by the Department of Science and Technology, (NSTEDB) Govt of India, New Delhi, from 25-07-2007 to 05-08-2007.
4. Five days Management Development Program on **Special MDP**, Organized by Department of Management Studies, Sponsored by J N N College of Engineering, Shivamogga from 21-01-2008 to 25-01-2008.
5. Five days Short Term Training Program on **Advances In E-Business Applications and Management Information System**, Conducted by Dept. of Information Science and Engineering, J N N College of Engineering, Shivamogga, Sponsored by ISTE New Delhi from 16-06-2008 to 20-06-2008.
6. Two Weeks MHRD Sponsored Summer School on **Wireless Sensor Networks: Open Issues and Research Directions**, Organized by National Institute of Technology Karnataka, Surathkal during 22-06-2009 to 03-07-2009.
7. Five days Workshop on **Induction Programme for New Faculty Members**, Organized by Center for Human Resource Development, Sponsored by J N N College of Engineering from 27-07-2009 to 01-08-2009.
8. Five days Faculty Development Training on **Operations Research and Its Applications**, Conducted by Dept. of Mechanical Engineering, J N N College of Engineering, Sponsored by J N N College of Engineering, Shivamogga from 27-07-2010 to 31-07-2010.
9. Three days Workshop on **Simulation of Wired and Wireless Networks (SWN-2012)**, Organized by Dept. of Computer Science and Engineering, National Institute of Technology Karnataka, Surathkal from 20-06-2012 to 22-06-2012.
10. Two week short term course on **Research Methodology**, Organized by J N N College of Engineering, Shivamogga, Sponsored by ISTE New Delhi during 15-01-2013 to 24-01-2013.
11. Five days Faculty Development Programme on **OpenGL, NS Tools and Image Processing Techniques**, Organized by Dept. of MCA, J N N College of Engineering, Shivamogga, Sponsored by Visvesvaraya Technological University, Belagavi from 07-07-2014 to 11-07-2014.
12. Two weeks Short Term Training Programme on **Design of Algorithms**, Conducted by IIT Kharagpur Under the National Mission on Education through ICT (MHRD, Govt. of India) from 25-05-2015 to 30-05-2015.

13. Five days Workshop on **Pedagogy For Effective Use of Mathematics For Research in Science and Technology**, Organized by J N N College of Engineering, Shivamogga, Sponsored by ISTE New Delhi from 27-07-2015 to 31-07-2015.
14. Six days Faculty Development Programme on **Python Programming for Data Science, Cloud and Wireless Networks**, Organised and Sponsored by J N N College of Engineering, Shivamogga from 09-06-2017 to 11-06-2017 and 16-06-2017 to 18-06-2017.
15. Five days Workshop on **National Board of Accreditation (NBA) and Outcome Based Education (OBE)**, Organised by J N N College of Engineering, Shivamogga, Sponsored by J N N College of Engineering, Shivamogga from 27-01-2017 to 31-07-2017.
16. Five days Workshop on **Research Methodology**, Organized by J N N College of Engineering, Shivamogga, Sponsored by ISTE New Delhi from 05-03-2018 to 09-03-2018.
17. Five days Induction/Refresher Programme on **Data Science and Classifications practicing with Python and Matlab** Organized J N N College of Engineering, Shivamogga, Sponsored by AICTE-ISTE New Delhi from 16-07-2018 to 21-07-2018.
18. Two week Faculty Development Programme (FDP201x) on **Foundation Program in ICT for Education**, conducted by Indian Institute of Technology Bombay from 13-09-2018 to 18-10-2018.
19. Two week Faculty Development Programme (FDP201x) on **Pedagogy for Online and Blender Teaching-Learning Process Workshop**, conducted by Indian Institute of Technology Bombay from 30-10-2018 to 13-12-2018.
20. Five days Workshop on **Blockchain Technology and its Applications**, Organized by J N N College of Engineering, Sponsored by ISTE New Delhi from 17-08-2020 to 21-08-2020.
21. One week AICTE Sponsored Online Short Term Training Programme (STTP) on **AI and other Advances in Computational Methods for Genomics**,— Organized by the Dept. of Computer Science and Engineering, J N N College of Engineering, Shivamogga, Sponsored by ISTE New Delhi from 14-12-2020 to 19-12-2020.
22. Five days AICTE Training And Learning (ATAL) Academy Online FDP on **Internet of Things (IoT)** from 04-01-2021 to 08-01-2021.
23. Five days AICTE Training And Learning (ATAL) Academy Online FDP on **Cyber Security** from 01-02-2021 to 05-02-2021.

CERTIFICATE COURSES

1. Completed NPTEL online certification course on **Programming in Java**, 12 week course with 74% from Jan.-Apr. 2019.
2. Completed Coursera online certification course on **Python Programming: A Concise Introduction**, 04 week course, Jun. 2020.
3. Completed NPTEL online certification course on *Introduction to Internet of Things*, 12 week course with 62% from Dec.-Apr. 2022.

STUDENT DEVELOPMENT PROGRAMME/WORKSHOPS/SHORT TERM COURSES ORGANIZED

1. Coordinator, Two days Student Development Programme on **Internet of Things**, at Dept. of Master of Computer Applications, J N N College of Engineering, from 30-03-2019 to 31-03-2019.
2. Coordinator, One day Student Development Programme on **Python and Django**, at Dept. of Master of Computer Applications, J N N College of Engineering on 16-04-2019.
3. Coordinator, Three days Student Development Programme on **Android Hands-On**, at Dept. of Master of Computer Applications, J N N College of Engineering from 3rd, 5th and 6th October 2019.

PLATFORMS AND TOOLS

1. *Operating Systems*: Windows, Linux.
2. *Languages*: C, C++, Java, Tcl/Tk and Python.
3. *Packages/simulators*: ns-2 and Matlab.

PROFESSIONAL MEMBERSHIPS

1. Member, Institution of Electrical and Electronics Engineers (IEEE), No. 96261626.
2. Life Member, Indian Society for Technical Education (ISTE), No. LM88139.

SUBJECTS TAUGHT

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|-------------------------------------|---------------------------------|
| 1. Data and Computer Communications | 2. Computer Networks |
| 3. Mobile Communications | 4. Java Programming |
| 5. Digital Logic Design | 6. Computer Organization |
| 7. Advance Java Programming | 8. Wireless and Ad Hoc Networks |
| 9. Python Programming | 10. UNIX and Shell Programming |
| 11. Management Information System | 12. Cloud Computing |
| 13. Web Technologies | 14. User Interface Design |
| 15. .Net Programming | 16. C Programming |
| 17. System Software | 18. Wireless Sensor Networks |

ACADEMIC ACTIVITIES

PAST

1. Member, Board of Examiners (PG), Department of Computer Science, Kuvempu University, Shivamogga from 06.02.2020 to 06.02.2021.

PRESENT

1. Member, Board of Examiners (PG), Department of Computer Science, Kuvempu University, Shivamogga from 23.08.2022 to 22.08.2023.
2. Member, Board of Examiners, MCA Board, Visvesvaraya Technological University, Belagavi from 27.09.2022 to 26.09.2022.

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