

# CURRICULUM - VITAE

Sanjana T

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## EDUCATIONAL QUALIFICATION:

- M.Tech. in Digital Communication (2012-2014) from B.M.S. College of Engineering, Bangalore, VTU.
- BE. in Electronics and Communication (2008-2012) from Siddaganga Institute of Technology, Tumkur, VTU.
- Currently pursuing PhD at IIITB (from 1<sup>st</sup> Aug 2023):
  - Completed course work
  - “Improving Channel Estimation in IRS-Aided mmWave MIMO Systems via CNN and Sparse Bayesian Learning,” 2024 IEEE Region 10 Symposium (TENSYP), New Delhi, India, 2024, pp. 1-6, doi: 10.1109/TENSYP61132.2024.10752257. (Presented on 27<sup>th</sup> September 2024 and published)
  - “Variational Bayesian Inference-based Robust Channel Estimation for IRS-assisted mmWave MIMO systems”, accepted and presented in IEEE International Conference on Advanced Networks and Telecommunications Systems on 17<sup>th</sup> December 2024.

## EMPLOYMENT DETAILS

- Assistant Professor in the department of Electronics and Communication at BMS College of Engineering (2014 to present)

## RESEARCH INTERESTS

- Physical layer aspects of wireless communication:
  - Intelligent Reflecting Surfaces
  - Channel estimation
  - mmWave and THz communication

## PUBLICATIONS (2014-2024- chronological order):

1. “Comparison of Channel Estimation and Equalization Techniques for OFDM Systems”, Circuits and Systems: International Journal (CSIJ), Vol.1, No.1, January 2014.
2. “Comparison of NBI suppression methods in OFDM systems”, International Journal of Science, Engineering and Technology Research (IJSETR), Vol. 3, Issue. 3, March 2014.
3. “Impulsive Noise Cancellation in OFDM System for AWGN and PLC Channels”, is published in the ELSEVIER proceedings and was also orally presented in the International conference ERCICA-2014 held at NMIT on Aug 1<sup>st</sup> and 2<sup>nd</sup>, Bangalore.
4. “Combined NBI and Impulsive Noise Cancellation in OFDM System”, International Journal of Advanced Information Science and Technology (IJAIST), ISSN:

2319:2682 Vol.31, No.31, November 2014, and the paper is also presented in NEWS-2014 (Networking, Embedded and Wireless Systems), National Conference held at BMSCE.

5. "Outcome based Pedagogy through ICT workshop for Analog Electronics Circuits Course", paper presented at 3<sup>rd</sup> International Conference on Transformation in Engineering Education held during January 2016 at Pune.
6. "Self-study: An active learning approach", paper presented at 5th IEEE International Conference on MOOCs, Innovation and Technology in Education on 27<sup>th</sup> October 2017.
7. "Simulation based learning for Non-Integrated Course", paper co-authored by Sanjana T and presented by Pushpa K (Author) at ICTIEE Chandigarh, Jan 10-11 2019.
8. "Significance and Health Benefits of Conch Shell", International Journal of Research and Scientific Innovation (IJRSI), Vol.6, Issue 7,11-15, ISSN 2321-2705, July 2019
9. Deep Learning Approaches used in Downlink MIMO-NOMA System: A Survey, Sanjana T., Suma M.N. Soft Computing and Signal Processing. Advances in Intelligent Systems and Computing, vol 1325. Springer, Singapore, 2021. [https://doi.org/10.1007/978-981-33-6912-2\\_63](https://doi.org/10.1007/978-981-33-6912-2_63)
10. "System Verification and Analysis of ALU for RISC Processor," H. R. Archana, T. Sanjana, H. T. Bhavana and S. V. Sunil, 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 1785-1789, doi: 10.1109/ICACCS51430.2021.9442045
11. "Touch-free operated Face shield-cum-mask for multifaceted applications – Vaktram Kavacham", Sanjana T, M Anantha Sunil and G K Shekhar, Journal of Physics: Conference Series, Volume 1969, International Virtual Conference on Intelligent Robotics, Mechatronics and Automation Systems 2021 (IRMAS 2021), 26-27 March 2021, Chennai, India
12. "VIEW: Optimization of Image Captioning and Facial Recognition on Embedded Systems to Aid the Visually Impaired", A. Bhalla, G. S, K. Prakash and Sanjana T, 2021 2nd International Conference on Communication, Computing and Industry 4.0 (C2I4), 2021, pp. 1-6, doi: 10.1109/C2I454156.2021.9689405.
13. "Investigation of power allocation schemes in NOMA", Sanjana T and Suma M N, International Journal of Electronics (2021).
14. "Studies on DC sputtered cuprous oxide thin films for solar cell absorber layers", T. Sanjana, M. Anantha Sunil, Habibuddin Shaik, K Naveen Kumar Materials Chemistry and Physics, Volume 281, 2022, 125922, ISSN 0254-0584, <https://doi.org/10.1016/j.matchemphys.2022.125922>.
15. "Outage and Error-Rate Analysis of NOMA-Inspired Multicarrier Underlay Cognitive Radio System", P Shachi, T Sanjana, KR Sudhindra, MN Suma, IEEE Access, 26/10/2022.
16. Programmable Bot for Multi Terrain Environment. In: Muthusamy, H., Botzheim, J., Nayak, R. (eds) Robotics, Control and Computer Vision. Lecture Notes in Electrical Engineering, vol 1009. Springer, Singapore. [https://doi.org/10.1007/978-981-99-0236-1\\_29](https://doi.org/10.1007/978-981-99-0236-1_29)
17. 'Improving Channel Estimation in IRS-aided mmWave MIMO Systems via CNN and Sparse Bayesian Learning', accepted for presentation in IEEE TENSYP 2024 which will be held on Sept 27-29 2024.

## BOOK CHAPTERS:

1. Book chapter “Role of IoT and AI in Covid-19” and “Applications of 3D Printing during COVID-19”, Book: Artificial Intelligence Applications in a Pandemic: COVID-19, 22nd Oct 2020, Series: Smart and Intelligent Computing in Engineering, Publisher: CRC Press, Taylor and Francis group, <https://www.routledge.com/Artificial-Intelligence-Applications-in-a-Pandemic-COVID-19/Krit-Singh-Elhoseny-Singh/p/book/9780367644499>
2. Book chapter “A Framework for a Secure e-Health Care System Using IoT-Based Blockchain Technology”, Book: Blockchain Technology for Data Privacy Management Edition 1st Edition, 2021, Pages 21, eBook ISBN 9781003133391, Publisher: CRC Press, Taylor and Francis group, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003133391-12/framework-secure-health-care-system-using-iot-based-blockchain-technology-sanjana-sowmya-pradeep-kumar-srinivasa>
3. Book Chapters, “AI-Based Wireless Communication” and “Technological and Non-Technical Challenges Associated With 6G Networks” in Book titled “Challenges and Risks Involved in Deploying 6G and NextGen Networks”, Publisher IGI Global, 2022, DOI: 10.4018/978-1-6684-3804-6.ch004, 10.4018/978-1-6684-3804-6.ch011. <https://www.igi-global.com/chapter/ai-based-wireless-communication/306814>
4. Book Chapters, “Medical Imaging Modalities and Different Image Processing Techniques: State of the Art Review” and “Recent Advances in Drug Delivery Systems: MEMS Perspective”, in Book Titled “Disruptive Developments in Biomedical Applications”, Publisher Taylor and Francis CRC Press, eBook ISBN 9781003272694, 2023. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003272694-3/medical-imaging-modalities-different-image-processing-techniques-lalitha-sanjana-bhavana-ishan-bhan-harshith>
5. “Weed Control for Better Crop Health using AIoT”- chapter 5 in “The Future of Agriculture: IoT, AI And Blockchain Technology For Sustainable Farming”, Bentham Publications, 2024.

## ACADEMIC ACHIEVEMENTS:

- Certificate of merit in recognition to the highest academic performance in M.Tech for the academic year 2012-13 and 2013-14 (at the end of odd semester).
- Received Best paper Award for the paper entitled “Touch-free operated Face shield-cum-mask for multifaceted applications– Vaktram Kavacham” on 26th March 2021, in the International Conference on Intelligent Robotics, Mechatronics and Automation Systems organized by VIT, Chennai.
- Received Best paper Award for the paper entitled “Combined NBI and Impulsive Noise Cancellation in OFDM System”, in NEWS-2014 Conference held at BMSCE, Bangalore.
- Coordinated several student activities and FDP at college

- Mentored a team which won first prize in BMSCE hackathon: Beat the pandemic from 5<sup>th</sup> to 7<sup>th</sup> June 2020, they presented “Autonomous Screening System” for COVID screening which could be used by organizations
- Mentored a team which won first prize in Mercedes-Benz Research & Development India (MBRDI) Techflame “Vehicle-to-Everything – Remote Extensive Safety Communication Unit for Emergency (V2X – R.E.S.C.U.E)”, 2023.