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| **Name of the Teaching Staff** | Dr. BINI D | | | | |
| **Designation** | Assistant Professor | | | | |
| **Department / School** | Robotics Engineering | | | | |
| **Date of Joining the Institution** | 26/08/2021 | | | | |
| **Qualification with Class / Grade** | **Degree** | **Branch / Specialization** | **University** | **Mode** | **Month & Year of Passing** |
| | **Ph.D.,** | Electronics and Instrumentation | Karunya Institute of Technology and Sciences | Full Time | April 2023 |
| | **M.Tech** | VLSI & Embedded Systems | BS Abdhur Rahman University | Full Time | June 2014 |
| | **B.E.,** | Electronics and Communication | Anna University | Full Time | April 2012 |
| **Area of Specialization** | Computer Vision, Image & Video Processing, Real-Time Embedded Systems. | | | | |
| **Research Interests** | Artificial Intelligence & Quantum Deep Learning Algorithms | | | | |

| **Subjects Teaching** | **Under Graduate** | **Post Graduate** |
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| | <ul><li>Robotics & Automation</li><li>Vision Systems</li><li>Artificial Intelligence in Robotics</li><li>Robotics and Automation in Food Industry</li><li>Robotics and its Applications</li><li>Virtual Instrumentation Theory & Applications</li><li>Sensor Signal Conditioning Circuits Laboratory</li><li>Microcontrollers Laboratory for Robotics</li><li>Aircraft Instrumentation and Control Laboratory</li></ul> | <ul><li>Robotics & Factory Automation</li><li>Image Processing & Machine Vision</li><li>Advanced AI & ML Lab</li></ul> |

| Total Experience in Years | Teaching | Industry | Research | |
|---|---|---|---|---|
| | 4 | 4 months | 3 | |
| Papers Published | National | 2 | International | 15 |
| Papers Presented in Conference | National | 2 | International | 8 |
| Conferences / Symposiums / Seminars / Workshops Participated | National | 4 conference / 5 workshops | International | 3 |
| FDP / STTP / MDP / Summer / Winter School attended | 1. Attended FDP titled "Model based system design for automotive engineering: A MATLAB approach" on 12.06.2023-16.06.2023, organized by Sri Ramakrishna Engineering College Coimbatore. 2. Attended FDP titled "Artificial Intelligence" on July 2022 to August 2022; sponsored by IBM- Faculty Build-A-Thon. 3. Attended FDP titled "Research opportunities in emerging areas of Engineering" on 18th July 2022 - 22nd July 2022 organized by KPR Institute of Engineering and Technology, Coimbatore 3. Attended FDP titled "Universal Human Values in Technical Education" on 5th to 09th December, 2022 organized by AICTE. 4. Attended 3 days examination reforms workshop in online mode on October 2021 organized by AICTE. | | | |

| M.Phil. / Ph.D. Guide ship | Field | | University | |
|---|---|---|---|---|
| | Artificial Intelligence & Quantum Deep Learning Algorithms | | Karunya Institute of Technology and Sciences | |
| Ph.D. Projects Guided | Ph.D.s | 3 (on going) | Project at Master''s Level | 4 |
| Professional Memberships | IAENG | | | |
| Consultancy Activities | - | | | |
| Awards & Honours | - | | | |

| Grants Fetched | - |
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| Interaction with Professional Institutions | • Resource Person for two days National Level Workshop on "Deep Learning for Audio and Image Processing Applications" in the Department of Electronics and Communication Engineering of our college on 29.9.23 & 30.9.23 both days. • Guest Lecture, titled "Deep Learning techniques" in the Department of Biomedical Engineering, Karunya Institute of Technology & Sciences on 26/05/2022. • Resource Person for National Level Technical event MINDKRAFT 2023 at School of Agricultural Sciences, Karunya Institute of Technology & Sciences on 24th March, 2023. |
| Educational | • Ph.D Electronics & Instrumentation Engineering 2023 • M.Tech VLSI & Embedded Systems 2014 |

| Details | • B.E. Electronics & Communication Engineering 2012 |
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| **Experience** | • Worked as a Project Assistant in Indira Gandhi Center for Atomic Research, Kalpakkam for period of 10 months (08/08/2013 – 30/04/2014).<br>• Worked as a TRA in Karunya Institute of Technology and Sciences for 3 months (10-9-2019 - 30-11-2019)<br>• Working as Assistant Professor in Karunya Institute of Technology & Sciences, Coimbatore (26/08/2021 till date) |
| **Contact Details** | bini@karunya.edu |
| **Papers presented in conferences** | 1. "Machine Vision and Machine Learning for Intelligent Agrobots: A review" In the 5th IEEE ICDCS'20 at Karunya Institute of Technology and Sciences, Coimbatore during 5th– 6th March 2020.<br><br>2. "Estimation of Tomato berries based on Image Segmentation in RGB color model" in the 9th National Conference ETEIAC 2020 at Karpagam College of Engineering, Coimbatore on 13th March 2020.<br><br>3. "Emotion based Music Recommendation System using Deep Learning Model" in the 6th International Conference on Inventive Computation Technologies, ICICT 2023 - Proceedings, 2023, pp. 227–232.<br><br>4. "AI-based Emotion Therapy Bot for Children with Autism Spectrum Disorder (ASD)" 9th International Conference on Advanced Computing and Communication Systems, ICACCS 2023, 2023, pp. 1895–1899.<br><br>5. "LIDAR-based navigation Rover for Fields with Smart Pest Sprayer using Machine Vision" 9th International Conference on Advanced Computing and Communication Systems, ICACCS 2023, 2023, pp. 1889–1894<br><br>6. "An Online Platform for Early Eye Disease Detection using Deep Convolutional Neural Networks" 6th International Conference on Devices, Circuits and Systems, 2022, pp. 388–392.<br><br>7. "Development of 3D Printed Bionic Leg with Detachable Activity Tracker for Rehabilitation" in BMEiCON 2025 - 17th Biomedical Engineering International Conference, 2025<br>8. Emotion Detection in Children with Autism Spectrum Disorder: Leveraging EEG Signals and Companion Bots for Enhanced Interaction Ahmed, F., Srinivasa, G., John, D., Prince, S., Bini, D. Iet Conference ProceedingsOpen source preview, 2024, 2024(23), pp. 307–312. |

| **Patents** | - |
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| **Journals** | 1. "Real-time tomato flower estimation using deep learning models for e-agriculture applications", by Bini, D., Pamela, D., Prince, S., Sagayam, K.M., Günerhan, H. in Sigma Journal of Engineering and Natural SciencesOpen source preview, 2025, 43 (5), pp. 1572–1579.<br><br>2. "Recognition of Bloom/ Yield in Crop images using Deep Learning models for Smart |

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| | Agriculture: A review", by Bini D, Pamela D, Shajin Prince, Daniela Elena Popescu and Jude Hemanth inAgronomy; vol 11, Date of Publication: 27thMarch 2021.<br><br>3. "Design of a linear voltage to frequency converter for digital audio applications" Prince, S., Samson Immanuel, J., Manoj,G., Amir Anton Jone, A., Bini, D. International Journal of Innovative Technology and Exploring Engineering, 2019, 9(1), pp. 4458–4464.<br><br>4. "Intelligent Agrobots for Crop Yield Estimation using Computer Vision" Computer Assisted Methods in Engineering and Science, 29(1-2), 161-175. 2022<br><br>5. "Audio Compression using a Modified Vector Quantization algorithm for Mastering Applications" International Journal of Electronics and Telecommunications, 69(2), 287-292,<br><br>2023. |
| **Books/Book Chapters** | 1. "Evaluating YOLOv5 Deep Learning Models for the Detection of Tomato Berries for Crop Yield Estimation" in Frontiers in Artificial Intelligence and Applications, 347, (429-436), 2022.<br><br>2. "Medical image analysis of masses in mammography using deep learning model for early diagnosis of cancer tissues", Julia, R., Prince, S., Bini, D. in Computational Intelligence and Modelling Techniques for Disease Detection in Mammogram Images Open-source preview, 2024, pp. 75–89. |