

***Dr. Banumathi K. L.***  
**Associate Professor**  
**Department of E & C E**  
**BIET, Davangere**  
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***Work Experience: 28 years***

- Worked as a lecturer in E&CE Department of Bapuji Polytechnic Shabnur from 16/09/1993 to 26-07-2005
- Worked as a lecturer in E&CE Department of Bapuji Institute of engineering and Technology Davangere from Aug 2007 to Aug 2012
- Working as Asst. Professor in E&CE Department of Bapuji Institute of engineering and Technology, Davangere since Sept 2012.
- Working as Associate Professor in E&CE Department of Bapuji Institute of engineering and Technology, Davangere since Jan 2025.
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***Educational Qualification:***

- Ph.D [Image Processing Techniques for Skew Detection and Correction of Handwritten Historical Documents] from VTU-RRC ,Belagavi,2022
- M.Tech [VLSI Design & Embedded System] from JC College of Engineering & Technology, Mysore, VTU, 2007.
- B.E [Electronics & Communication] from Bapuji Institute of Engineering & Technology, Mysore University, 1993

***NPTEL Online Certification:***

- Qualified NPTEL Online Certification course on Accreditation and Outcome Based Learning during Aug-Oct 2023.
- Qualified NPTEL Online Certification course on ADigital Electronic Circuits during Jan-Apr 2023.

***Membership:***

- Life Member of Indian Society for Technical Education : MISTELM27490
- Life Member of Institute of Electronics & Telecommunication Engineers : IETE-M219025
- Life Member of Institute of Engineers: MIE-M/124737/3

### ***Core Subjects Taught:***

VLSI Design and Testing, Control Systems, Introduction to Electronics and Communication, VLSI Design, Basic Electronics and Communication Engineering, Basic Electronics, Analog Electronic Circuits, Electronic Instrumentation, Logic Design, Field Theory, Linear IC's and Applications, Microcontrollers, Power Electronics, Microprocessors, Embedded Systems, Digital System Design using VHDL, Fundamentals of CMOS VLSI, Microelectronics Circuits, Engineering Electromagnetics, Arm Microcontroller and Embedded Systems, Digital Electronics, Digital Image Processing, Digital System Design.

### ***Resource Person:***

- As resource person for 2 session and demonstration of Technical talk on **Microcontrollers (ARM and Embedded C)** conducted by E&CE department, BIET for IV Semester CS-DS students of BIET on 10<sup>th</sup> July 2024.
- Delivered session on Arithmetic and Logical Instructions for Hands on workshop on **Microcontroller 8051 and Embedded C** conducted by E&CE, BIET for IV Semester EC students from 5<sup>th</sup> to 8<sup>th</sup> July 2023.
- Delivered session on **Constructors and Destructors** in C++ during **Value Added Training Program on Object Oriented Programming using C++** organized Department of E&CE, BIET on 6<sup>th</sup> and 7<sup>th</sup> October 2017.
- Delivered seminar on the topic **Digital Electronics** arranged for III semester E&CE students, (Diploma) on 4<sup>th</sup> October 2017 at Bapuji Polytechnic Shabanur, Davangere.

### ***SDP Conducted:***

- Conducted 1 week **Skill Development Program** for first year P-cycle students (2<sup>nd</sup> semester) on **Simple Electronics Circuits and their Applications** organized by the E&CE department, BIET from 24<sup>th</sup> July to 3<sup>rd</sup> August 2023.
- Conducted 1 week **Skill Development Program** for first year C-cycle students (2<sup>nd</sup> semester) on **Simple Electronics Circuits and their Applications** organized by the E&CE department, BIET from 14<sup>th</sup> to 22<sup>nd</sup> March 2022.

### ***Publications:***

- "Review on Machine Learning Techniques for Plant Disease Detection" Published in TuijinJishu/Journal of Propulsion Technology, ISSN: 1001-4055 Vol.44 No. 6, December 2023, <https://doi.org/10.52783/tjpt.v44.i6.3397>
- "Machine Learning approach to the classification and Identification of hand gesture recognition using Python" International journal of recent scientific research vol. 14, issue 11, pp. 4372-4377, Nov-Dec 2023, <http://dx.doi.org/10.24327/ijrsr.20231411.0821>
- "Document Image Skew Detection and Correction based on 3 Quadrants Gradient Detection Scheme" Published in IOSR Journal of VLSI and Signal Processing (IOSR-JVSP) Volume 10,

Issue 5, Ser. I (Sep. - Oct. 2020), PP 20-24 e-ISSN: 2319 – 4200, p-ISSN No. : 2319 – 4197  
www.iosrjournals.org

- “A New Method to Estimate Skew Angle in Printed and Historical Document Images” Published in International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8 Issue-4, November 2019
- Presented a paper on “An Approach to Estimate Skew Angle in Printed Document Images”, First International Conference on Advances in Information Technology (ICAIT-2019) organized by Computer Science and Engineering, Adichunchanagiri Institute of Technology, Chikkamagaluru during 25th to 27th July 2019.
- Presented a paper on “A New algorithm for Skew Detection and Correction of Historical Kannada Documents in International Conference on Multimediamedia Processing, Communication & Information Technology MPCET 2018 held at J.N.N. college of Engineering, Shivmoga, during 8th & 9th June 2018.
- Presented a paper on “Line and word Segmentation of Kannada Handwritten Text documents using Projection Profile Technique” in the International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECOT-2016) in association with IEEE Bangalore Section, organized by GSSS Institute of Engineering & Technology for Women, Mysuru on 9th & 10th December 2016.
- Presented a paper on “Database Development of Historical Documents: Skew Detection And Correction”, International Journal of Advanced Technology in Engineering and Science, IJATES\Certificate, July 2014.
- Presented a paper on “Mat lab Implementation of Text Extraction Using Multiscale Edge Based Algorithm” at the international Conference on VLSI and Signal Processing held KSIT, Bangalore on 4th and 5th of May 2012.

### *Seminar/ Workshops Attended:*

#### *Workshop:*

- Participated in two days workshop on **Research Opportunities, Challenges and Industry Concepts in RISC-V Processor** organized by Department of E&CE, Cambridge Institute of Technology in association with Ministry of Electronics and Information Technology on 31<sup>st</sup> January and 2<sup>nd</sup> February 2024.
- Participated in two days workshop on **Skills for Quality Research and Publications** organized by BIET in association with Karnataka Association for the Advancement of Science (KAAS) & IQAC, on 8<sup>th</sup> and 9<sup>th</sup> September 2023
- Participated in the Seminar on Best Practices for New Education Policy (NEP)-2020 in Higher Education Institutions sponsored by NAAC on 21<sup>st</sup> February 2023
- Attended One day workshop on **eSim, a first course in the IoT series for Teachers** held at BIET in IS & E Dept. on 21<sup>st</sup> Sep 2019 organised by the Teaching Learning Centre (ICT) at IIT Bombay, funded by the Pandit Madan Malaviya National Mission on Teachers and Training (PMMNMTT), MHRD, Govt. of India.
- Attended two day workshop for Faculty on **ARM Cortex M3 Microcontroller** on 23<sup>rd</sup> & 24<sup>th</sup> Jan 2018 organized by Department of Electronics & Communication Engineering, in association with Indian Society for Technical Education (ISTE), BIET Chapter & Advanced Electronic Systems (ALS), Bangalore.
- Attended workshop on **Research Methodologies and Latex** from 20<sup>th</sup> to 22<sup>nd</sup> December 2016

Rajarajeshwari College of Engineering, Bengaluru.

- Attended two day workshop on **MSP 430 Microcontroller** on 12th & 13th December 2011
- Attended one day workshop on **Embedded Systems Design-Principles & Practice**, Faculty Development Workshop, Organized by Board for IT Education Standards (BITES) & BVBCET, Hubli on 15th Nov 2010.
- Attended three day workshop on **Digital System Design using HDL – Synthesis & Simulation using Test Benches** from 16<sup>th</sup> to 18<sup>th</sup> April 2009, at BIET, Davangere.
- Attended workshop on **Electronics in Industrial Automation** from 16<sup>th</sup> to 21<sup>st</sup> July 2007 at SJCE, Mysore.

### ***FDP:***

- Participated in 21 days FDP on **Masterclass on Data Science-update 2024** organized by Pantech e Learning ,Digital Learning Simplified, in association with IETE from 8<sup>th</sup> to 28<sup>th</sup> May 2024.
- Participated in one week FDP on **MasteringIoT:Hands-on Training for Sensor Tntegration,Devices and Cloud Services** organized by Department of E&CE,BIET, in association with Eaktech Private Limited,Bengaluru, from 4<sup>th</sup> to 9<sup>th</sup> December 2024.
- Participated in one week FDP on **Google Analytics and Tools for Data Visualization**, organized by Department of CSE, in association with IQAC, ISTE and IEI-Faculty Chapters, BIET from 24<sup>th</sup> July to 1<sup>st</sup> August 2023
- Attended FDP on **Data Analytics/Data Management**, organized by Department of Training and Placement ,BIET in association with TCS held on 7<sup>th</sup> July 2023.
- Attended six days FDP on **Master Math by Python** organized by Department of CSE, JIT, Davangere from 6<sup>th</sup> to 11<sup>th</sup> February 2023.
- Participated in five days FDP on **Analog and Digital IC Design: Semiconductor Industry approach** jointly organized by Atria Institute of Technology and Entuple Technologies from 26<sup>th</sup> to 30<sup>th</sup> September 2022.
- Attended six days FDP on Embarking on **Open Source Software in an Engineering & Research Journey** in association with FOSS group, VTU, Belagavi,from 19<sup>th</sup> to 24<sup>th</sup> April 2022.
- Participated in International Webinar on **High Performance Bio Technology for Health Care** organized by Parishkar College of Global Exxcellence ,Jaipur,Rajasthan on 17<sup>th</sup> Febrauary 2022.

### ***Online FDP:***

- Participated in 5 day National Level FDP on **Emerging Trends in Signal Processing,Image Processing and Artificial Intelligence**, organized by E&CE,SJMIT,Chitradurga from 12<sup>th</sup> to 16<sup>th</sup> September 2023.
- Participated in 7 day National Level FDP on **Outcome Based Education & Essential AI Tools for Teachers**, organized by IQAC of Carmel College (Autonomous), Mala in association with The Kerala State Higher Education Council(KSHEC) from 10<sup>th</sup> August to 18<sup>th</sup> August 2023.
- Participated in five days online International FDP on **Data Science Using Machine Learning** organized by Pravara Rural Engineering College in Collaboration with EXcelR from 2<sup>nd</sup> to 6<sup>th</sup> January 2023.
- Banumathi K L of BIET,Davangere has participated in One Week AICTE – VTU Joint Training Programme for Teachers on **An Overview of Teaching Techniques in Basics of Electronics and Communication Engineering** organized by VTU Human Resource Development Centre (VTU -

HRDC),Centre for PG Studies, VIAT, Muddenahalli, Chikkaballapur (Dist.) - 562101 from 13th to 17th December 2021.

- Banumathi K L of BIET,Davangere has participated in Workshop in offline mode on **Implementation of National Education Policy 2022** organized by BIET in association with VTU,Belagavi at BIET,Davangere, from 10<sup>th</sup> to 11<sup>th</sup>December 2021
- Banumathi K L of BIET,Davangere has participated in 5-Day Faculty Development Programme on **“Digital VLSI Design and Verification”** organized by Department of ECE, Bangalore Institute of Technology in association with Entuple Technologies and IEEE-BIT CAS from 23rd to 27th August 2021.
- Banumathi K L, Assistant Professor of Bapuji Institute of Engineering and Technology participated & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary Faculty Development Programme on **“VLSI -IP DESIGN Approach to SRAM compiler design”**from 16<sup>th</sup> to 20<sup>th</sup> August 2021 at GM Institute of Technology.
- Mrs.Banumathi K L Participated in National Level One Week Online Faculty Development Program on **“Introduction to Microchip FPGA “** from 19th to 23rd July 2021, organized by Department of Electronics & Communication Engineering, Bapuji Institute of Engineering and Technology, Davangere in association with Tecnomic Components Pvt. Ltd.Bengaluru, ISTE Faculty Chapter BIET and IETE Shivamogga Center.
- Mrs.Banumathi K L Participated in FDP on **Embarking on Open Source Software in an Engineering & Research Journey** in association with FOSS group, VTU, Belagavi,from 19<sup>th</sup> to 24<sup>th</sup> April 2022
- Mrs. Banumathi K L actively participating and passing the test in the AICTE sponsored two week online Faculty Development Program on **RELIABILITY ENGINEERING AND SYSTEM SAFETY** during the period 15th to 27th February 2021
- Mrs. Banumathi K L has Participated in five day Faculty Development Program on **Advancement in Communication Engineering Technologies with Simulation tools** from 1st to 5th July 2020.
- Attended two day faculty development program on **Lab VIEW and its Application** on 2<sup>nd</sup> and 3<sup>rd</sup> Aug 2012 organized by department of E&CE in association with ISTE, BIET chapter and Trident Tech Labs Pvt. Ltd. Bangalore.
- Attended a two day Faculty development program on **Low Power Embedded System using MSP430 Microcontroller** organized by Dept. of E&CE in association with Texas Instruments and Cranes Software International Ltd., Bangalore on 9th and 10th Feb 2012

### ***Online Webinar:***

- Participated in the Online Webinar on **Design of Linear and Nonlinear Microwave Circuits** organized by Department of Electronics and Communication Engineering, Brindavan College of Engineering, Bengaluru held on 07- 07-2020.
- Attended Two Days National Webinar on **Research Trends in Image Processing and Pattern Recognition** organized by Department of Electronics & Communication Engineering, Brindavan College of Engineering, Bengaluru held on 29-06-2020to 30-06 2020.
- Participated in the Webinar on **Future Technology Trends** organized by Department of Electronics and Communication Engineering in association with IEEE APS Society, St. Joseph's Institute of Technology, Chennai on 28-06-2020.
- Participated in the Webinar on **Co-Existence between Radar and Communication Systems** organized by Department of Electronics and Communication Engineering in association with IEEE APS Society, St. Joseph's Institute of Technology, Chennai on 27-6- 2020.
- Participated in the Webinar on **Multi-Robot Motion Planning: The Easy, The Hard and The**

- Uncharted** organized by Department of Electronics and Communication Engineering in association with IEEE APS Society, St. Joseph's Institute of Technology, Chennai on 26-06-2020.
- Participated in the Webinar on **An Overview of the IEC Protection against Electric Shock** organized by Department of Electronics and Communication Engineering in association with IEEE APS Society, St. Joseph's Institute of Technology, Chennai on 25-06-2020.
  - Participated in the Online Webinar on **Creative Design on Adobe Photoshop and Illustrator** Organized by Department of Electrical & Electronics Engineering, V.V. Sangha's, Rao Bahadur Y. Mahabaleswarappa Engineering College, Ballari, Internal Quality Assurance Cell (IQAC), on 24-06-2020
  - Mrs. Banumathi K L has attended one week online awareness programme on **Use of Mobile Applications for digital payment and E-Governance services** in association with The Institute of Electronics and Telecommunication Engineers (IETE), held on 21st to 26th December 2020, Organized by Department of Computer Science and Engineering
  - Mrs. Banumathi K L has participated in webinar on **Assistive Technology for Empowerment of Persons with Disability** conducted on 11th December 2020 in association with Composite Regional Centre (CRC) For Skill Development, Rehabilitation & Empowerment of Persons with Disabilities (Under Administrative Control of National Institute for the Empowerment of Persons with Intellectual Disabilities, Secunderabad), Department of Empowerment of Persons with Disabilities (Divyangjan) & Ministry of Social Justice & Empowerment, Government of India.
  - Attended a Management development program on **Organizational And Leadership Challenges During Covid 19** Organized by Banarsidas Chandiwalla Institute of Professional studies, Dwarka, New Delhi on 20-06-2020
  - Participated in the Online Webinar on **New Exploring and Understanding the Normal during COVID-19** Pandemic organized by RKDF University, Bhopal (M.P.)-India on 19-06-2020.
  - Participated in the Online Webinar on **Intellectual Property Rights Patent Filing Procedure** organized by the Department of Computer Science and Engineering on 9th June, 2020.

#### ***Online Quiz:***

- Participated in online General Awareness Quiz on **Pandemic COVID-19** Organized by Department of Computer Application, Shivharsh Kisan PG College, Basti, U.P., India on 18-07-2020.
- Participated in a National Level Technical E-Quiz on **COMMUNICATIONS** Organized by Department of Electronics and Communication Engineering (ECE) on 17-07-2020.
- Participated in online Quiz on **Fundamentals of Operating Systems** Conducted by Department of Computer Science and Engineering, Jain Institute of Technology, Davangere, on 15-07-2020.
- Participated in National Level online Quiz on **Digital Electronics** Organized by Department of Electrical & Electronics Engineering, Mandsaur University, Mandsaur on 05-07-2020.
- Participated in National Level Online Quiz on **Digital Communication** Organized by Department of Electronics and Communication Engineering, SJMIT, NH-4 Bypass, Chitradurga, Karnataka from 02-07-2020 to 04-07-2020.
- Participated in National Level Technical Quiz on **Digital Logic Circuits** Organized by Department of ECE on 28-6-2020.
- Participated in Technical online Quiz on **VLSI** Organized by Department of Electronics and Communication Engineering, Jain Institute of Technology, Davangere on 25-6-2020.
- Participated in online Quiz on **Electronics Circuits and Digital Electronics** Conducted by Department of Electronics and Communication Engineering, JIT, Davangere, on 22-06-2020.