# FACULTY PROFILE



Name of the Faculty:**Vargil Vijay E**
Department: **ECE**
College: Gudlavalleru Engineering College
Mobile: **+91 9502392827**
E-Mail: vargilvijay@gmail.com

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## Academic Qualifications:

| S.No | Name of the Degree (*Starting from Ph.D to 10th Class*) | University |
|------|------|------|
| 1 | **Ph.D. (Pursuing)** | **JNTUA,** Ananthapuram |
| 2 | **M.TECH.** | **V. I. T. University,** Vellore, T.N. |
| 3 | **B.TECH.** | **JNTUH,** Hyderabad |
| 4 | **INTERMEDIATE** | B.I.E. |
| 5 | **S.S.C.** | B.S.E. |

## PROFESSIONAL EXPERIENCE

| Designation | Institution | Period |
|------|------|------|
| Assistant Professor | Gudlavalleru Engineering College | 09-06-2009 to till date |

## MEMBERSHIP IN PROFESSIONAL BODIES

| S.No. | Name of Professional Body | Membership Number |
|------|------|------|
| 1 | IE(I) | AM162849-9 |

## PAPERS PUBLISHED IN CONFERENCES

1. Vargil Vijay E, Ch.V. Rama Rao, G N Swamy, M. Kamaraju Published a paper titled **"Electronic Control Unit for an Adaptive Cruise Control System using EFI"** in International Conference on Next Generation Communication and Computing Systems

**(ICNGC2S-10)**, pp.191-193, held in Chandigarh during 25-26 December, 2010 [ISBN:978-93-81068-00-7].

2. Vargil Vijay E, Sunil Chakravarthy K published a paper titled **"New efficient Image Denoising Method for Digital Cameras with color filter array"** International Conference on Nano science Engineering & Advanced computing (ICNEAC-11) during July 8-10, 2011 Conducted in Swarnandhra College of Engineering & Technology, Andhra Pradesh.

3. Vargil Vijay E, Miranji K Published a paper titled "**Implementation of Pre-computational based content addressable Memory**" in International Conference on Nano science Engineering & Advanced computing (ICNEAC-11) during July 8-10, 2011 Conducted in Swarnandhra College of Engineering & Technology, Andhra Pradesh.

4. Vargil Vijay E, Dr. D. Prabhakar published paper titled **"Implementation of Rectangular Spiral Patch Antenna by using Coaxial Feed"** in International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems" held in Gudlavalleru Engineering College during 30th November - 1st December, 2018.

5. Dr. D. Prabhakar, Vargil Vijay E published paper titled **"Implementation of Koch Snowflake Fractal Antenna for Multi-band Applications"** in International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems" held in Gudlavalleru Engineering College during 30th November - 1st December, 2018.

6. Vijay, E.V., Aparna, K. (2023) presented a paper titled "Machine Learning Based Spectrum Sensing for Secure Data Transmission Using Cuckoo Search Optimization" In: Nandan Mohanty, S., Garcia Diaz, V., Satish Kumar, G.A.E. (eds) Intelligent Systems and Machine Learning. ICISML 2022. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 471. Springer, Cham. https://doi.org/10.1007/978-3-031-35081-8_33, Dec. 2022. (Scopus Indexed)

7. Vargil Vijay, E., Aparna, K. (2023) presented a paper titled "CNN Depending Spectrum Sensing for Effective Data Transmission in Wireless Communication" in 2nd International Conference on Cognitive and Intelligent Computing. ICCIC 2022. Cognitive Science and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-99-2746-3_5, Dec. 2022. (Scopus)

8. Vargil Vijay, E., Aparna, K. (2024) presented a paper titled "Enhanced Spectrum Detection Framework for Proficient Wireless Communication in Wireless Sensor Networks" at International Conference on Research Innovations & Challenges(ICRIC 2025) 30th January - 1st February 2025

# PAPERS PUBLISHED IN JOURNALS

1. G Rama Chandra Rao, E V Vijay, Ch. Sathish Kumar Published a paper titled **"Design of modified Radix $2^2$ FFT algorithm in OFDM communication system"** in International Journal of VLSI & Signal Processing Applications, Vol. 2, Issue 5, ISSN 2231-3133, (392-396) during November 2012.

2. Baba S Fariddin and Vargil E Vijay "**Design of Efficient 16-Bit Parallel Prefix Ladner- Fischer Adder**" International Journal of Computer Applications volume 79- Number 16, 10-14, October 2013. Published by Foundation of Computer Science,New York, USA.

3. G.Subrahmanyam, T.JayaPrakash, E.VargilVijay**," Data Acquisition and Processing Samples of an Explosive Material using Arm Microcontroller (ARM9263)"**, in International Journal of Computer Applications, (IJCA) Volume 88, Number 18, January-February 2014, published on line Online February 14$^{th}$ 2014, (www.ijcaonline.org) ISSN: 973-93-80880-48-3.

4. Ramesh Kakollu, Vargil Vijay E "**A Novel Pattern Classification using Granular Reflex  Fuzzy Min-Max Neural Network**" in International Journal of Computer Applications(IJCA) ,pp. 29-33 Vol. 107, No. 19, December 2014.

5. Soma Sekhar, Vargil Vijay E **"All Digital Self Interference Cancellation technique for MIMO-Full Duplex System"** in International Journal of Computer Applications (IJCA) , pp.13-18, Vol. 148-No. 10 ,August, 2016.

6. P. Srinivasa Rao, Vargil Vijay E, **" A frame by frame Digital video de-noising by Non-Local Means Algorithm and Bilateral Filter"** in International Journal of Advanced Research in Computer Science and Software Engineering",pp. 266-270, Vol. 6, Issue 9, ISSN:2277 128X,September 2016.

7. Vijay E V, K. Siva Anjaneyulu, G. Jagadeesh, K. Poornima c, K. Mohan K published a paper titled **"Crop Pestilence Detection using Image Segmentation"**in International Journal of Research in Advent Technology, Vol. 7, No. 3, E-ISSN:2321-9637, **March 2019**.

8. Vargil Vijay E, Dr. K. Aparna Published a paper on " Survey on Network Coding for Energy proficient Wireless Sensor Networks" in **International journal of Advanced Science and Technology (IJAST)**, pp. : 9282-9287, Vol. 29, ISSN:2207-6360, May 2020.

9. Vijay E V, Navya Ch, A S Begum, Rajaneesh D,  Mahesh Babu B published a paper titled **" Soil Classification using Support Vector Machine (SVM)"**in International Journal of Research in Advent Technology, Vol.8, No.9, E-ISSN: 2321-9637, September 2020.

10. E. Vargil Vijay, K. Meghana, M. Sivaiah, K. Charan, K. Sumanth, Published a paper titled "Wireless Spectrum Detection Using Deep Learning For Wireless Communication" in International Journal of Innovative Engineering and Management Research", Volume 12, ISSUE 03, Pages: 503-509, Mar. 2023

11. Vijay, E Vargil, and K. Aparna. "**Spectrum sensing using deep learning for proficient data transmission in wireless sensor networks for wireless communication**." Ain Shams Engineering Journal , Volume. 15, Issue 7 (2024): 102784.
12. Vijay, E. Vargil, and Aparna, K. **"Deep learning-based spectrum sensing and modulation categorization for efficient data transmission in cognitive radio**." Physica Scripta Journal, Volume. 99, Issue. 12 (2024): 126008.
13. Vijay, E. Vargil, and K. Aparna. "**Deep learning-CT based spectrum sensing for cognitive radio for proficient data transmission in wireless sensor networks**." E-Prime-Advances in Electrical Engineering, Electronics and Energy, Volume: 9 (2024): 100659.
14. Vijay, E. Vargil, and K. Aparna, "**RNN-BIRNN-LSTM based spectrum sensing for proficient data transmission in cognitive radio**." e-Prime-Advances in Electrical Engineering, Electronics and Energy, Volume: 6 (2023): 100378.
15. Vijay, E. Vargil, and K. Aparna. "**LSTM-BIGRU based Spectrum Sensing for Cognitive Radio.**" EAI Endorsed Transactions on Internet of Things, Volume: 10 (2024).

## LIST OF WORKSHOPS ORGANIZED

- Coordinator for Three day workshop on **"Overview on Latest Telecom Technologies"** by BSNL Krishna District during 18-20 December, 2014.
- Coordinator for National Level Technical Project Expo- **YODHA '14** conducted by Dept. of ECE Gudlavalleru Engineering College on 4th February, 2015.
- Coordinator for Workshop on **"Microwave Devices: Hands-on Experience in association"** in Association with Vajenthura Microwave Solutions Ltd., Chennai.

## LIST OF WORKSHOPS /CONFERENCES /SEMINARS ATTENDED

- Attended AICTE Sponsored one day National Seminar on **"Wavelets and its Applications"** at V. R. Siddhartha Engineering College, Gudlavalleru on 9th August, 2009
- Attended AICTE sponsored staff development program on **"Current trends in Biometrics"** at Gudlavalleru Engineering College, Gudlavalleru during 2-14 November, 2009.
- Attended A two day workshop on **"Embedded Design using Xilinx FPGA"** organized by TIFAC-CORE in Telematics and ECE Department at V.R. Siddhartha Engineering College, Vijayawada during 8-9 July, 2011.
- Attended one-day workshop on **"Analog and Mixed Signal VLSI Design"** at Gudlvalleru Engineering College, Gudlavalleru on 15th October 2011.
- Attended workshop on **"RF system Design & Testing"** at V. R. Siddhartha Engineering College, Vijayawada in collaboration with ROHDE & SCHWARZ on 18th December,2011.
- Attended Technical seminar on **"Advanced Design Concepts in Electronics & Telecommunication"** at vijayawada organized by FALCON Electro-Tek Pvt. Ltd., Mumbai on 22nd June, 2012.

- Attended Six day Faculty Development program on **"Analog System design using Texas instruments Analog system Lab Kit (ASLK)"** at PVP Siddhartha Institute of TECHNOLOGY, VIJAYAWADA DURING 4-9 JUNE, 2012.
- Attended Faculty Development Program on **VLSI & Embedded System Design** at Gudlvalleru Engineering College, Gudlavalleru during 7-8 July, 2012.
- Attended workshop on **"SPEECH SIGNAL PROCESSING"** organized by Department of Electronics & Communication Engineering of National Institute of Technology, Warangal sponsored by TEQIP Phase-II during 10-12 May, 2013.
- Attended Atwo day workshops on **"Issues in Integrated Circuits (ICs) Design"** organized by Gudlvalleru Engineering College, Gudlavalleru during 13-14 December, 2013.
- Attended a Three day National Workshop on **"Theory & Applications of Intelligent Signal Processing"** organized by ECE Department of Gudlavalleru Engineering College, Gudlvalleru during 28 February – 2 May 2014.
- Attended one week Workshop on **"Training Teachers for Excellence"** at Department of Electronics & communication Engineering of Gudlvalleru Engineering College, Gudlavalleru during 29th April to 4th May 2013.
- Participated in a Two- day ISTE Workshop on **"Aakash for Education"** conducted by Indian Institute of Technology, Mumbai held under the National Mission on Education Through ICT (MHRD) during 10-11 November, 2012.
- Attended the Complimentary Training / Orientation on **"MATLAB, Simulink & Related tool boxes for Engineering Education"** conducted by Gudlavalleru Engineering College &MathworksMatlabAkademy of Design & Architecture during 3-4 April,2013.
- Participated in a Two-week ISTE Workshop on**"Analog Electronics"** conducted by Indian Institute of Technology, Kharagpur under National Mission on Education through ICT (MHRD) from 4-14 June, 2013
- Participated in National Level Workshop **on "Advanced Trends in Embedded systems design (practical Approach)"** conducted by R.V.R. & J.C. College of Engineering, Guntur during 14-15 December, 2012.
- Attended one-week refresher course on **"Electronic Devices & Circuits"** conducted by Gudlavalleru Engineering College during 23-28 September, 2013.
- Attended A Two-day workshop **on "Development of Embedded System- A Practical Approach"** conducted by Department of ECE of Gudlavalleru Engineering College, Gudlavalleru during 20-21 August, 2014.
- Attended one day workshop on **"Ultra Low Power Communication using CC430 Microcontroller: Hands on Experience"** conducted Department of ECE, Gudlavalleru Engineering College on 7th February, 2015.
- Participated in a Two-week ISTE workshop on "**Signals & Systems"** conducted by Indian Institute of Technology, Kharagpur under National Mission on Education through ICT (MHRD) during 2-12 January, 2014.

- Participated in one day workshop on **"Speech Processing:: Current Challenges and Hands-on Experience"** conducted by Department of ECE of Gudlavalleru Engineering College on 23$^{rd}$ August, 2014.
- Attended Two Day National Seminar on **" Recent Advances in Microwaves & Antennas" sponsored by Department of Science & Technology (DST),** New Delhi Conducted by Sri Vasavi Engineering College, Tadepalligudem during 6-7 Septmeber, 2014.
- Attended **"Overview on Latest Telecom Technologies"** conducted by BSNL, Krishna during 18-20 December, 2014.
- Attended **"One day Research & Development Facilitation workshop"** conducted by The Institution of Engineers (I) ,Vijayawada Local center on 29$^{th}$ March, 2015.
- Attended a two day staff training program on **" Simulation of Linear & Digital Integrated Circuits and Microcontroller based Applications"** using NI Multisim organized by Department of Electronics and Communication Engineering, Gudlavalleru Engineering College, Gudlavalleru.
- Attended a two day national seminar on **"Intelligent System For More Connected World: Internet of Things"** organized by Institution of Engineers (India) on behalf of 32$^{nd}$ National convention of Electronics &Telecommunication Engineersheld at Vijayawada during 24-25 October, 2016
- Participated in two AICTE Sponsored Seminar **on "Advanced Digital Image processing Techniques (ADIPT)"** at NBKR Institute of Science & Technology, Nellore, A.P. during 15-16 Decmeber, 2017.
- Attended one Week Faculty Development Programme on **"Communications and Signal Processing"** organized by Dept. of ECE, Gudlavalleru during 29$^{th}$ October – 3$^{rd}$Novmber, 2018.
- Attended one Week Faculty Development Programme on **"Machine Learning Applications in Signal Processing"** organized by Dept. of ECE, Gudlavalleru during 4$^{th}$ February – 9$^{th}$ February, 2019.
- Participated in AICTE Sponsored Online Short Term Training Program on **"Blockchain Architecture design and use cases"** Phase-I organized by Department of ECE, Gudlavalleru Engineering College, during 10-15 August,2020.
- Participated in AICTE Training and Learning (ATAL) Academy online FDP on **"Internet of Things (IoT)"** organized by JNTUA College of Engineering, Kalikirifrom 9-13 November, 2020.
- Participated in AICTE Training and Learning (ATAL) Academy online FDP on **"Internet of Things (IoT)"** organized by JNTUA College of Engineering, Kalikiri from 7-11 December, 2020.
- Participated in AICTE –ISTE Sponsored one week online Induction Programme on **"Millimeter Wave Frequencies" (Phase-III)** organized by Gudlavalleru Engineering College, Gudlavalleru from 17-24 August, 2021.
- Participated in FDP on **"Deep Learning for Real Time Research Applications"** conducted by Dept. of CSE , SRGEC in association with CCE,NITW from 03- 07 January 2022..

- Participated in Faculty Development Programme on **" Insights of NEP 2020 and Strategies for its Implementation"** organized by "Seshadri Rao Gudlavalleru Engineering College on 12th June 2022.
- participated in A Two-day workshop on **"Machine Learning : Concepts And Applications"** organized by R&D Cell, Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru, during 30th June - 01st July, 2022.
- Participated in One Week Faculty Development Program on "**Applications of Computer Vision using Deep Learning**" conducted by the department of Electronics and Communication Engineering, Seshadri Rao Gudlavalleru Engineering College during 20 - 25 February 2023.
- Participated in **LATEX: ESSENTIALS AND PRACTICE** International Workshop at Madanapalle Institute of Technology and Science during 26-February-2024 to 01-03-2024.
- Participated "Online FDP on AI for communications and Signal Processing" organized by Electronics &ICT Academy, NIT Warangal in association with SR Gudlavalleru Engineering college sponsored by MeitY, GOI during 03-02-2024 to 14-02-2024.

## Certification/ Training Programs Attended:
- Attended Five-day training program on **"Mentor Graphics (Front End & Back End) and Xilinx Tools"** at Gudlavalleru Engineering College, Gudlavalleru during 13-17 September, 2010.
- Attended 2 Day Training on **"Digital Image Processing using MATLAB"** organized by Computer centre, MIT Campus, Anna University, Chennai during 20 – 21 June, 2015.
- Attended one Week faculty Development programmeon "**Development of Wireless Sensor Networks Using Simulator NS-2- Hands on Experience**" Organized by Communication Research Group in Association with Vertex soft Hyderabad at Gulavalleru Engineering College Campus during 1 -5 December, 2015.
- Participated in one week National Level Faculty Development Program on "Signals and Image Processing using LabVIEW" at Gudlavalleru Engineering college campus during 13-18 November,2017.

**NPTEL Online Certification Courses Completed**
- Principles of Communication Systems-I with a Score of 82% ( In Top 5% of Course)[Elite]
- Signals & Systems with a Score of 90% ( In Top 5% of Course)[Elite+Gold]

## Subjects Handled:
## Under Graduation
- Digital Communications
- Digital Signal Processing
- Analog Communications
- Signals & Systems

- Optical Communications
- Electromagnetic field Theory
- Microwave & Optical Communications
- Control Systems

## Post Graduation
- DSP Processors & Architecture
- Advanced Digital signal Processing
- Digital Data Communications

## Labs Handled
Under Graduation
- Digital Communications Lab
- Analog Communications Lab
- Digital Signal Processing Lab
- Electronic Devices & Circuits Lab
- Electronic Computer Aided Design Lab
- Digital Circuit Design Lab

## Other Responsibilities
## College Level:
- EPABX In charge(2012-2014)
- GECFEST '09, '15,'18 '16 –In-Charge.
- Central Lecture Theatre- In charge (2016 – till date)

## Department Level:
- Time Table Coordinator for A.Y.:2010-11 , 2015-16 & 2016-till date.
- ECSAt Faculty Advisor in A.Y.: 2012-13
- NBA – Criteria 6 Coordinator
- NAAC – Criteria 4 Coordinator

## RESEARCH PAPERS / BOOKS:
BOOKS PUBLISHED:

1. Co-author for chapter **3.1** titled **"Digital Communications LAB(Autonomous)"** of **Electronics and Communication Engineering laboratory Manual** series 2 with **ISBN – 978-1-4276-5564-6** in the year 2016

2. Co-author for chapter 4.1 titled **"Digital Communications LAB(R13)"** of **Electronics and Communication Engineering laboratory manual** series with **ISBN – 978-1-4276-5563-9** in the year 2016

3. Co-author for chapter 12 titled **"Digital Communications"** of **Electronics and Communication Engineering Instructional manual** with **ISBN – 978-1-4276-5539-4** in the year 2015.

4. Co-author for chapter 3.1 titled **"Digital Communications(R10)"** of **Electronics and Communication Engineering laboratory Manual** with **ISBN – 978-1-4276-5536-3** in the year 2015

## Curriculum Design & Development:

Enacted as Board of Studies member for the Autonomous curriculum design of Electronics and Communication Engineering at Gudlavalleru Engineering College, Gudlavalleru.

**Curriculum developed for following subjects:-**
1. Digital Communications
2. Digital Communications Lab
3. Digital Signal Processors & Architecture

## Other Achievements:

- Got campus placement in Cognizant Technology Solutions **(CTS)** Pvt. Ltd. in 2008.
- Completed Pre-Ph.d. Course work.
- Got Best Paper Award for presenting a paper titled "Wireless Spectrum detection using deep learning for Wireless Communication" in "International Conference on Recent Innovations in Engineering & Technology" ICRIET-2023 during 17-03-2023 to 18-07-2023 in ALIET, Andhra Pradesh.