Name: A Bhanuchandar
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Address: Hyderabad, Telangana State
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Languages Known: English, Telugu, and Hindi

Academic Details

Examination/Degree	Institute/University/College	Year-Completed	Percentage
Ph.D-Power Electronics	NIT Warangal	Dec 2023-Thesis Submitted	
M.Tech-Power Electronics	JNTU Kakinada	2012-2014	77.50
B.Tech-EEE	JNTU Kakinada	2011	73.01
Intermediate-M.P.C	SGVP Junior College	2007	74.60
S.S.C	SP High School	2005	87.83

NPTEL Certification Courses: 2

1. Got Elite certificate from IIT Madras: Control Engineering (12-week course)
2. Got Elite certificate from IIT Roorkee: DC Microgrid (8-week course)

Technical Skills and Field of Interest with Research Experience-Power Electronics: 5.1 Years

- Power Electronics-Software Tools: MATLAB/Simulink, PLECS, PSIM and PSPICE
- Three Phase Active Front-End Converters
- Off-Board Chargers (Fast Charging)-Electric Vehicle (EV) Applications
- On-Board Chargers-EV Applications
- Inverter Topologies-DC to AC-Single Phase and Three Phase
- PWM Charge Controllers
- Single Phase Grid-Connected Inverters
- Three Phase Grid-Connected Inverters
- DSTATCOM-Power Quality Improvement
- Control of AC Microgrids
- DC to DC Converters: Buck, Boost and Buck-Boost, etc.,
- Control of DC to DC Converters
- Control of AC to DC converters
- Thermal loss Analysis using PLECS tool
- High Gain Converters-DC Microgrid Applications
- Induction Motor, BLDC, PMSM, and Switched Reluctance Motor Drives
- Electric Drives Control Techniques-FOC and DTC Techniques
- Digital Controllers: dSPACE-1104, STM32, FPGA, OPAL-RT and TMS320F28379D
- PCB Design
- Solar Photovoltaic Based Grid Tied Inverters
- Wind Turbines and PMSG
- DSP controllers through embedded coding
- Modulated Model Predictive Current Control Techniques
- Bidirectional DC to DC Converters
- Battery Energy Storage Systems
- Power Supply Designs
- IGBT, MOSFET and Wideband Gap Semiconductor Devices
- Solved 360+ power electronics based simulation works with different control techniques

Doctoral Project

Title of Project: Implementation and Analysis of Generalized Floor Function-Based Modulated Model Predictive Current Control Technique for Single Phase Self-Balanced Type Multilevel Inverter Topologies

Journal Publications-SCI/SCIE: 05

1. **Bhanuchandar, A,** Murthy, BK. A new generalized floor function-based high switching frequency modulation and control technique: Multilevel inverters. *Int J Circ Theor Appl*. 2023; 51(10): 4754-4773. **doi:10.1002/cta.3659**
2. **Bhanuchandar, A,** Murthy, BK. Modulated model predictive current control technique for single phase nine-level T-type packed U-cell inverter topology. *Int J Circ Theor Appl*. 2023; 1-20. **doi:10.1002/cta.3818**
3. **Bhanuchandar, A,** Murthy, BK. A new single modulating and single carrier-based predictive current control technique for single-phase quadruple boost multilevel inverter topology. *Int J Circ Theor Appl*. 2023; 1-19. **doi:10.1002/cta.3779**
4. **Bhanuchandar,** A, Murthy, BK. A new floor function single-carrier-based modulated model predictive current control technique for single-phase PUC5 inverter topology. *Int J Circ Theor Appl*. 2023; 1-23. **doi:10.1002/cta.3784**
5. **Bhanuchandar,** A, Murthy, BK. A new generalized predictive current control algorithm with integration of fractional part function based modulation technique: Single phase self-balanced type multilevel inverter topologies. *Int J Circ Theor Appl*. 2023; 1-20. **doi:10.1002/cta.3847**

Conference/Book Chapter Publications-IEEE and Springer: 20

1. **A. Bhanuchandar** and B. K. Murthy, "Switched Capacitor Based 13-Level Boosting Grid Connected Inverter with LCL Filter," *2021 National Power Electronics Conference (NPEC)*, Bhubaneswar, India, 2021, pp. 01-06, doi: 10.1109/NPEC52100.2021.9672544.
2. **A. Bhanuchandar** and B. K. Murthy, "Single Phase Nine Level Switched Capacitor Based Grid Connected Inverter with LCL Filter," *2020 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies*, Shillong, Meghalaya, India, 2021, pp. 1-5, doi: 10.1109/ICEPE50861.2021.9404491.
3. **Bhanuchandar, A.,** Murthy, B.K. (2022). A New Nine-Level Multilevel Inverter Topology with 1:3 Source Configuration Using Unified Low Switching Frequency Control Scheme. In: Gupta, A.R., Roy, N.K., Parida, S.K. (eds) Power Electronics and High Voltage in Smart Grid. Lecture Notes in Electrical Engineering, vol 817. Springer, Singapore. https://doi.org/10.1007/978-981-16-7393-1_19.
4. **Bhanuchandar, A.,** Murthy, B.K. (2022). A Reduced Device Count of Self-Balancing Five-Level Switched Capacitor-Based Grid-Connected Inverter. In: Kumar, S., Singh, B., Singh, A.K. (eds) Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering, vol 852. Springer, Singapore. https://doi.org/10.1007/978-981-16-9239-0_27
5. **Bhanuchandar, A.,** Murthy, B.K. (2022). Single Phase Five Level Step-Up Switched Capacitor Based Grid Connected Inverter with LCL Filter. In: Kumar, S., Singh, B., Singh, A.K. (eds) Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering, vol 852. Springer, Singapore. https://doi.org/10.1007/978-981-16-9239-0_42
6. **Bhanuchandar, A.,** Murthy, B.K. (2022). Self-balanced Symmetric Source Configuration of Nine Level Switched Capacitor-Based Grid Connected Inverter with LCL Filter. In: Kumar, S., Singh, B., Singh, A.K. (eds) Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering, vol 852. Springer, Singapore. https://doi.org/10.1007/978-981-16-9239-0_21
7. **Bhanuchandar, A.,** Murthy, B.K**.** (2022). A New Single-Phase Five-Level Self-Balanced and Boosting Grid-Connected Switched Capacitor Inverter with LCL Filter. In: Panda, G., Naayagi, R.T., Mishra, S. (eds) Sustainable Energy and Technological Advancements. Advances in Sustainability Science and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-16-9033-4_11
8. **Bhanuchandar, A.,** Murthy, B.K. (2022). A New Reduced Device Count of Three-Phase Three-Level Switched Capacitor-Based Grid-Connected Inverter with LCL Filter. In: Panda, G., Naayagi, R.T., Mishra, S. (eds) Sustainable Energy and Technological Advancements. Advances in Sustainability Science and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-16-9033-4_8
9. **Bhanuchandar, A.,** Murthy, B.K. (2023). Single Phase Five Level T-type Grid Connected Inverter with LCL Filter. In: Namrata, K., Priyadarshi, N., Bansal, R.C., Kumar, J. (eds) Smart Energy and Advancement in Power

Technologies. Lecture Notes in Electrical Engineering, vol 927. Springer, Singapore. https://doi.org/10.1007/978-981-19-4975-3_4

10. **Bhanuchandar, A**., Murthy, B.K. (2023). A Unified Rounding Control Scheme for T-type Packed U-Cell Switched Capacitor-Based Multilevel Inverter Topology. In: Kumar, S., Singh, B., Sood, V.K. (eds) Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering, vol 973. Springer, Singapore. https://doi.org/10.1007/978-981-19-7728-2_21
11. K. Tammali, S. S. Vangala, S. Vattikonda, K. Palle, **A. Bhanuchandar** and K. B. Kumar, "An Asymmetric Source Configuration of Single-Phase CHB-MLI Topology with a Generalized Reduced-Carrier Modulation Technique," *2022 International Conference on Intelligent Controller and Computing for Smart Power (ICICCSP)*, Hyderabad, India, 2022, pp. 1-5, doi: 10.1109/ICICCSP53532.2022.9862515.
12. K. Palle, S. Vattikonda, S. S. Vangala, K. Tammali, **A. Bhanuchandar,** and A. Mohandas, "A Generalized Non-Carrier Modulation Technique for an Asymmetric Source Configuration of Single-Phase CHB-MLI Topology Using PLECS Tool," *2022 IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT)*, Hyderabad, India, 2022, pp. 1-5, doi: 10.1109/SeFeT55524.2022.9909071.
13. K. B. Kumar, **A. Bhanuchandar**, B. Supriya, D. Vamshy, K. Palle and R. Sakile, "A Unipolar Phase Disposition Pulse Width Modulation Technique for an Asymmetrical Multilevel Inverter Topology," *2021 IEEE International Conference on Intelligent Systems, Smart and Green Technologies (ICISSGT)*, Visakhapatnam, India, 2021, pp. 156-161, doi: 10.1109/ICISSGT52025.2021.00041.
14. R. Sakile, **A. Bhanuchandar**, K. B. Kumar, D. Vamshy, B. Supriya and K. Palle, "A Nearest Level Control Scheme for Reduced Switch Count Cascaded Half-Bridge Based Multilevel DC Link Inverter Topology," *2021 8th International Conference on Signal Processing and Integrated Networks (SPIN)*, Noida, India, 2021, pp. 287-292, doi: 10.1109/SPIN52536.2021.9566056.
15. K. B. Kumar, **A. Bhanuchandar** and C. Mahesh, "A Novel Control Scheme for Symmetric Seven Level Reduced Device Count Multi-Level DC Link (MLDCL) Inverter," *2021 International Conference on Sustainable Energy and Future Electric Transportation (SEFET)*, Hyderabad, India, 2021, pp. 1-4, doi: 10.1109/SeFet48154.2021.9375714.
16. Sakile, R., Rivera, M., Kumar, K.B., Supriya, B., **Bhanuchandar, A.** (2022). A Unipolar Phase Disposition PWM Technique for Reduced Switch Count Symmetrical Nine-Level Multilevel DC Link Inverter Topology. In: Kumar, S., Singh, B., Singh, A.K. (eds) Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering, vol 852. Springer, Singapore. https://doi.org/10.1007/978-981-16-9239-0_8
17. Supriya, B., Palle, K., **Bhanuchandar, A**., Sakile, R., Vamshy, D., Kumar, K.B. (2023). A Current Control Scheme of Three Phase Three-Level Neutral Point Clamped Grid Connected Inverter Using Min–Max Algorithm Approach. In: Namrata, K., Priyadarshi, N., Bansal, R.C., Kumar, J. (eds) Smart Energy and Advancement in Power Technologies. Lecture Notes in Electrical Engineering, vol 927. Springer, Singapore. https://doi.org/10.1007/978-981-19-4975-3_20
18. Kumar, K.B., **Bhanuchandar, A**., Sakile, R., Supriya, B., Palle, K., Mahesh, C. (2023). Symmetric Source Configuration of Nine Level Multi-Level DC Link Inverter Topology Using Nearest Level Control and Unipolar Phase Disposition PWM Techniques. In: Namrata, K., Priyadarshi, N., Bansal, R.C., Kumar, J. (eds) Smart Energy and Advancement in Power Technologies. Lecture Notes in Electrical Engineering, vol 927. Springer, Singapore. https://doi.org/10.1007/978-981-19-4975-3_16
19. Sakile, R., **Bhanuchandar, A**., Rivera, M., Supriya, B., Palle, K., Vamshy, D. (2023). A New Asymmetric 23-Level Inverter Topology with Nearest Level and Unipolar Phase Disposition Control Techniques. In: Namrata, K., Priyadarshi, N., Bansal, R.C., Kumar, J. (eds) Smart Energy and Advancement in Power Technologies. Lecture Notes in Electrical Engineering, vol 927. Springer, Singapore. https://doi.org/10.1007/978-981-19-4975-3_3
20. Izharuddin, K., Palle, K., **Bhanuchandar, A**., Gopal, G. (2023). Single-Phase Grid-Connected 5-Level Switched Capacitor Inverter Using PLECS Tool. In: Sharma, S., Subudhi, B., Sahu, U.K. (eds) Intelligent Control, Robotics, and Industrial Automation. RCAAI 2022. Lecture Notes in Electrical Engineering, vol 1066. Springer, Singapore. https://doi.org/10.1007/978-981-99-4634-1_55

Teaching Experience-Electrical and Electronics Engineering: 3.8 Years

S. No	Designation	Name of College	From Date	To Date
1.	Asst. Professor	CBIT(A), Hyderabad	22-01-2015	31-05-2015
2.	Asst. Professor	CBIT(A), Hyderabad	08-06-2015	31-05-2018
3.	Asst. Professor	MGIT, Hyderabad	01-08-2018	17-12-2018
Subjects Taught: Electrical Circuits-I, Electrical Circuits-II, Control Systems, and BEE				