

Valluru Chandra Sekhar

Mobile: (+91) 9603004538

Email: vcs10@student.nitw.ac.in, chandrasedkharvalluru@gmail.com



CAREER OBJECTIVE

Aspiring to be a part of organization that gives me scope to apply my knowledge and skills to be a part of the team that dynamically works towards the growth of the organization, thus improve my knowledge and gain work experience.

EDUCATIONAL QUALIFICATIONS

COURSE	UNIVERSITY/ BOARD	SCHOOL/COLLEGE	YEAR OF PASSING	% OF MARKS/ CGPA
Ph.D	NIT Warangal		2019-2023	7.3
M.E (PS&PE)	Osmania university Hyderabad	Chaitanya Bharathi Institute of Science & Technology (CBIT), Gandipet, Hyderabad	2014	77.69
B.Tech. (EEE)	JNTU. Hyderabad	Swarna Bharathi Institute of Science & Technology, Khammam.	2011	76.95
Intermediate	Board of intermediate education, Hyderabad.	Narayana Jr. college, Vijayawada	2007	90.80
SSC	Board of secondary school education, Hyderabad.	All Saints English Medium High School, Chillakallu	2005	80.33

PROFESSIONAL EXPERIENCE

- ✓ **Research Scholar** in National Institute of Technology , Warangal (19/12/2018 – till date) **5 Years**
- ✓ **Assistant Professor** Chaitanya Bharathi Institute of Technology (CBIT), Hyderabad (18/02/2015 – 18/12/2018) **3Years 10 months**

AREAS OF EXPERTISE

Power electronic converters
Control systems

TECHNICAL SKILLS

Simulation tools: MATLAB/SIMULINK, PSPICE, MULTISIM, PSIM.

Hardware Implementation: Inductor, Transformer, Heat sink selection, MOSFET gate driver, capacitor selection,

- DC-DC Converters
Buck, boost, buck-boost, forward, fly-back,
- soft switched DC-DC converters
PSFB, LC series resonant, LLC resonant, CLC resonant
- AC-DC converters
- DC-AC inverters

Analog IC's: UC 3875, SG 3525

Embedded processors: TMS320F28379d

Embedded coder: Code composer studio (CCS)

PCB design software: Ultiboard

Programming Languages: C, Embedded C.

PROJECTS

Ph.D. RESEARCH PROJECT:

Title: DC-DC Soft-Switched Power Converter Topologies for LED Lighting (Supervisor: Dr.N.Vishwanathan, Professor, EED, NIT Warangal)

Objective: To develop efficient and low component count DC-DC soft-switched LED driver for multiple LED lighting application and wide input voltage battery fed automotive LED lighting application.

Contribution 1: The proposed configuration is having four buck converters connected in such a way to form full-bridge which is suitable for low as well as high voltage inputs and also for higher wattage lighting. The topology facilitates soft switching. It also eliminates Diode Bridge which usually used in DC-AC conversion for higher wattage. Each LED load is connected across switching devices of the full-bridge configuration. The operation of the proposed configuration is in such a way that, switches handle small amount of current resulting in lower conduction losses. ZVS operation is also achieved resulting in overall high efficiency. Other advantages of this configuration include lower component count, PWM dimming and possibility for extension to more loads.

Contribution 2: In the proposed converter LED load is placed in between DC source and the input side of the full-bridge inverter which reduces the rectifier components of the SRC. The proposed

converter reduces the number of diodes used for rectification and ensures ZVS switching of the power switches which improves the efficiency of the converter. LED lamp current is regulated with Phase-shift pulse width modulation (PWM) of full-bridge. Lamp illumination is controlled with PWM dimming.

Contribution 3: A wide input voltage battery fed LED driver for automotive application is proposed. LED load is placed between boost converter and half-bridge series resonant converter.

M.E DISSERTATION PROJECT:

Title: Development of Multi Level Inverter (MLI) based STATCOM (Guided by: Dr. B.P.Muni, Rtd. Manager, B.H.E.L (R&D), Hyderabad)

- A five level Cascaded H- Bridge (CHB) Inverter based STATCOM is designed.
- STATCOM is simulated in MALTAB/SIMULINK.
- A three level CHB Inverter is experimentally implemented.

B.TECH PROJECT WORK:

Title: Speed Control of separately excited DC motor using Buck Converter.

- A Buck converter is designed.
- Proposed speed control is simulated in MALTAB/SIMULINK.

PUBLICATIONS

Journals:

- [1] Valluru Chandrasekhar, Neti Vishwanathan, Soft Switched Full-Bridge DC-DC LED Driver For Street Lighting, Optik, Volume 273, 2023,170430, <https://doi.org/10.1016/j.ijleo.2022.170430>.
- [2] Chandrasekhar, V, Vishwanathan, N, Kolla, HR. Soft-switched full-bridge light-emitting diode driver with reduced rectifier components. *Int J Circ Theor Appl*. 2023; 1-16. doi:[10.1002/cta.3820](https://doi.org/10.1002/cta.3820)

Journals communicated:

Valluru Chandrasekhar, Neti Vishwanathan," A wide range LED driver with reduced components for automotive applications" IEEE Transactions on transportation electrification: - (Under Review).

Conferences:

- [1]V. C. Sekhar, N. Vishwanathan and S. P. Selvi, "Input Regulated Soft Switched Ripple Free Current LED Driver," *2019 National Power Electronics Conference (NPEC)*, 2019, pp. 1-5, doi: 10.1109/NPEC47332.2019.9034836.
- [2] V. C. Sekhar and N. Vishwanathan, "An Efficient DC-Grid Based Half-Bridge LED Driver," *2020 21st National Power Systems Conference (NPSC)*, 2020, pp. 1-6, doi:10.1109/NPSC49263.2020.9331887.

[3]V. C. Sekhar and N. Vishwanathan, "Reduced Ripple Current LED Driver with Reduced Output Filter Capacitance," 2021 National Power Electronics Conference (NPEC), 2021, pp. 1-6, doi: 10.1109/NPEC52100.2021.9672543.

CO-CURRICULAR ACTIVITIES

Participated in one week FDP course conducted by NIT Calicut in June 2016

Participated in two week GIAN course conducted by NIT Goa in December 2016

Participated in two week SPARC course conducted by NIT Warangal in December 2019.

ACHIEVEMENTS

- Achieved all India Gate Rank 3108
- Secured **1st** rank (among 60) in first year of graduation.
- Achieved **100% result** from the class of first year under graduate, for the course “**Engineering Drawing**”

AWARDS AND FELLOWSHIPS

2019 – 2023 Institute Fellowship (during Ph.D.) – MHRD, Government of India.

2012 – 2014 Post Graduate Fellowship (during M.E) – MHRD, Government of India.

PERSONAL PROFILE

Name	:	Valluru Chandra Sekhar
Father's name	:	Subba Rao
Sex	:	Male
Date of Birth	:	25-05-1989
Nationality	:	Indian
Languages	:	English, Telugu
Marital status	:	Married
Communication Address:		H.NO: 24-7-59, Fathima nagar, Hanumakonda Telangana- 506004
Permanent Address	:	H. NO: 1-70, Makkapet (Post), Vatsavai (Mandal), N.T.R ditrict, Andhra Pradesh-521190

(V. Chandra Sekhar)