RESUME

HARIKESH SINGH RAWAT
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hr529@snu.edu,in, harikesh.rawat888@gmail.com
B.Tech, M.Tech (Electrical)
GATE 2013 (SCORE - 538)
Experience : 8+ Yrs

1. OBJECTIVE:

To establish myself in the field of research and product development, to utilize my skills and hardware experience to help to grow myself along-with renowned industry/organization.

4. ACADEMIC RECORD

YEAR	UNIVERSITY/ INSTITUTION	DEGREE	PERCENTAGE
From 2015	SHIV NADAR UNIVERSITY (SNU)	Phd.	Persuing
2010-2012	SHARDA UNIVERSITY	M.TECH	8.4(CGPA)
2006-2010	BHARAT INSTITUTE OF TECHNOLOGY	B.TECH Electrical Engg.	68.40%
2004-2005	SSVM INTER COLLEGE (BSR)	+2 (Maths)	74.60%
2003-2004	SSVM INTER COLLEGE (BSR)	10th up board	80.50%

Skills:

- ✓ Hands-On experience on power electronic circuits
- ✓ Basic knowledge of DC and AC machines theory
- ✓ Experimental use of power electronic converters for DC and AC motor drives
- ✓ Basic knowledge and hardware experience of low and high power analog circuits
- ✓ Microcontroller and analog circuit (555 timer, logic gate ICs) based control circuit design.
- ✓ Linear and switched mode power supply design and hardware implementation
- ✓ Solar power optimization and conversion using power electronic converters
- ✓ Prepared power electronics circuit kits for Power electronics and Electric Drives lab
- ✓ Worked on grid power feeding using 1-phase and 3-phase inverters
- ✓ Have experience of hardware implementation of driver circuits using op-amps, transistors and push-pull amplifiers (BJT and MOSFET based).
- ✓ Importance of isolated supply for motor drivers
- ✓ Testing and Verification of circuits using MATLAB Simulink before Hardware implementaion

2. ACADEMIC EXPERIENCE:

PERIOD	POSITION HELD	ORGANISATION	DURATION
03.08.2015 To Till date	TEACHING ASSTT. (ELECTRICAL ENGINEERING.)	SHIV NADAR UNIVERSITY, GREATER NOIDA	4 years
23.08.2010 To 20.02.2012	TEACHING ASSTT. (ELECTRICAL ENGINEERING.)	SHARDA UNIVERSITY,GREATER NOIDA	1 Year 6 months
06.08.2012 To 04.08.2014	ASSISTANT PROFE. (ELECTRICAL ENGINEERING)	SHRIDHAR UNIVERSITY, PILANI (RAJ)	2 years
15.08.2014 TO 30.07.2015	ASSISTANT PROFE. (ELECTRICAL ENGINEERING	RCE, ROORKEE (UTTRAKHAND)	1 Year

3. WORKSHOP ATTENDED

- ✓ Participated in "NATIONAL CONFERENCE ON RECENT TRENDS IN EXOTIC MATERIALS".
- ✓ Participated on "**QUANTUM DOT SENSITISED SOLAR CELLS in INDO-JAPAN INTERNATIONAL CONFERENCE ON FRONTIER NANOMATERIALS FOR ENERGY (FNE-2012)".**

5.TRAINING UNDERTAKEN

- Two months training at BHEL Hardwar(UK)
- One month training at 11KV Sub-Station Paratapur Meerut .

6. SOFTWARE TECHNICAL SKILLS

- Basic knowledge (MS office)
- Basic knowledge of C,C++.
- Basic knowledge of PSIM, PSPICE
- Basic knowledge of MatLAB and Simulink .

7.PROJECTS UNDERTAKEN (B.tech)

1. **Prepaid Energy meter** Based on Microcontroller
2. **Rf Based prevention and protection of the collision of trains.**

8. PROJECTS UNDERTAKEN/Industrial training (M.tech)

1. Industrial visit in Moser Baer Solar in noida and having basic knowledge of "single-crystal silicon solar cell" manufacturing process.
2. Project on "Quantum Dot Sensitized Solar Cell (**QDSSC-3G solar cell**)".

8. PROJECTS UNDERTAKEN (During PhD.)

DC motor Drives

1. DC motor speed control using thyristor based single-phase fully controlled rectifier
2. Chopper control of DC motor with current limit
3. Thyristor based automatic DC motor starter

Special Machines Drives:

1. Power and Driver circuit for Switched Reluctance Motor (SRM)
2. Six stepped three phase inverter using n-channel and p-channel enhancement-POWER MOSFETS for BLDC motor
3. Driver circuit using transistors. Six stepped logic using 555 timer, logic gate IC (NAND and Hex inverter), Counter based on D flip-flop.

AC motor Drive:

1. V/F control of three phase induction motor
2. Electronic control of SRIM rotor resistance

Power Electronics

1. Design and Hardware implementation of Switched mode power supply (SMPS)
2. Hardware six stepped three phase inverter using 555 timer, op-amps, FFs, counter and comparators ICs
3. MPPT boost converter for 60 cell 250 W PV module
4. Grid- tied inverter (single phase half bridge, 1-phase full bridge, Three phase SPWM inverter based on d-q theory)
5. Single switch and Two switch flyback hardware for DC bus/battery/ supercapacitor voltage balancing
6. Two switch flyback circuit for PV substring voltage equalization
7. Half bridge inverter and voltage multiplier circuit hardware for sub-module level dc power optimization for partially shaded and series connected pv substrings

UG Lab Hardware circuits:

1. Discrete testing of Diode, BJT, Thyristor, and MOSFET power devices.
2. Voltage and current sensing using Tl084 and Hall effect sensor.
3. Circuit for I-V and switching characteristics of power Diode, Thyristor, and Triac
4. MOSFET Buck-boost circuit with transistor based protection
5. Thyristor chopper circuit using 555 timer and 1:1:1 pulse transformer for isolated gate signals.
6. Single phase full controlled and half controlled rectifier.
7. Three phase Uncontrolled rectifier.
8. Low cost LED lamp circuit
9. Lab experiment on CRO/DSO for display and measurement of signals in time-sweep and X-Y mode. Use of various triggering methods etc

9. EXTRA CURRICULAR ACTIVITIES/ACHIEVEMENTS

- **Qualified GATE- 2015 (score-465)**
- **Qualified GATE- 2013 (score-538)**
- **Qualified GATE- 2012 (score-389)**
- **Qualified GATE- 2010 Score card**
- Seminar on distance relay in 6th sem

- Participated in quiz competition in school every year and got good marks.
- Organizing member of the department level Quiz program "**Quizmos**"

10.**PROFESSIONAL QUALIFICATIONS**

- A passion for hardware with a high professional aptitude.
- Excellent ability to co-ordinate well with other colleagues at workplace
- Positive attitude towards new and innovative ideas

11. **RESEARCH AND PUBLICATIONS**

Research Area:

- DC power optimization from a string of series connected Photovoltaic modules under partial shading condition using Differential power processors (DPP). DPPs are various kind of isolated switch mode power supply (SMPS) circuits that may have multiple outputs.

- Elimination of Voltage harmonics from a three phase inverter's output voltage using Repetitive controller.

- Supplying the current harmonics from a three phase inverter to the non-linear load connected to three phase grid based on repetitive control algorithm.(STATCOM)

Publications: (Accept)

Harikesh Rawat, Dinkar prasad, " SPV Power Optimization Using Half Bridge Inverter and Voltage Multiplier under Partial Shading,".(TENCON 2019, The IEEE Region.10 International Conference).

PERSONAL PROFILE

Father,s Name	: Mr.Kunvarpal Singh
Date of Birth	: Aug 4, 1988
Gender	: male
Citizenship	: Citizen of India
Religion	: Hindu
Marital Status	: Married
Permanent Address	: 419A, Garhi, Jewar Gautam Budha Nagar, Greater Noida (Uttar Pradesh)
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Date Harikesh Rawat