



## NIPUN SHRIVASTAVA

### ACADEMIC DETAILS

Year	Degree / Exam	Institute	GPA / Marks(%)
2010-12	M.Tech in Energy Studies	Indian Institute of Technology, Delhi	8.43
2004	CBSE	I.L.School, Kota (Raj.)	76.2%
2002	M.P.Board	J.H.S.School, Rewa (M.P.)	89.0%

### DEGREES PRIOR TO IIT

University	Examination	GPA / Marks(%)
S.G.S.I.T.S. Indore (M.P.) (2005-2009)	B.E.(Electrical Engineering)	76.45%

### COURSES DONE

Power System Protection , Fuel Technology , Energy Conservation , Direct Energy Conversion , Non-conventional Sources Of Energy , Economics & Planning Of Energy Systems , Heat Transfer , Solar Architecture , Electrical Power Systems Analysis , Energy Laboratory , Elect. Techniques For Signal Condit. & Interfacing .

### INDUSTRIAL TRAINING

**Study of electrical maintenance**, N.T.P.C., Singrauli (M.P.) (500 MW) (Sept, 2009 - Nov, 2009)

**Description** - Switch gear system in electrical maintenance department ,coal handling plants, Control unit , boiler system, cooling towers,motor sheds

**Achievement** - completed successfully.

### IIT DELHI THESIS

**Title** - Online Transient Security of Power System using PMUs

**Supervisor** - Prof. R.. Balasubramanian

**Description** - Transient security assessment scheme for large-scale interconnected power systems using phasor measurements and decision trees. The scheme builds and periodically updates decision trees offline to decide critical attributes as security indicators. Decision trees provide online security assessment and preventive control guidelines based on real-time measurements of the indicators from phasor measurement units. The scheme uses a new classification method involving each whole path of a decision tree instead of only classification results at terminal nodes to provide more reliable security assessment results for changes in system conditions.

### QUALIFYING EXAMS

**GATE Rank:** 564/634 (GE)

### SCHOLASTIC ACHIEVEMENTS

- **AIEEE** : Secured AIR 8944 rank in AIEEE 2005

### PROJECTS

- **Steady State Analysis of SEIG** (July, 2008 - Apr, 2009) : Trendy wind based Energy conversion systems identified as Self Excited Induction Generator (SEIG) is an isolated power source, whose terminal voltage and frequency are controlled by varying speed, excitation capacitance or load impedance. Since load changes from time to time, the output parameters mostly are controlled by either speed or by varying excitation capacitance. This project presents a method for calculating the minimum excitation capacitance using the equivalent circuit approach for analyzing the steady state operation of SEIG. Change in load impedance forces alteration in the value of excitation capacitance which is difficult to be implemented. A novel Leading VAR controller (LVARC) consisting of uncontrolled converter, inverter and a series LCR resonance circuit, is introduced in between the load and source to take care of reactive power disparity thereby feeding the reactive power to the inductive loads and absorbing reactive power for capacitive loads. A closed loop operation of SEIG was developed using Shunt Active Power Filter (SAPF), and Series Active Power Filter (SEAPF) are used for harmonic elimination. MATLAB based simulation and experimental results are presented and compared for VAR controller operated with linear loads. Simulation study is made for Non-Linear loads with respect to SAPF and SEAPF. The simulation results show the effectiveness of Voltage built-up and harmonic reduction in Wind based Power Generation.
- **Traffic Signal Controller (considering straight passage)** (Jun, 2007 - Dec, 2007) : With the use of bits arrangement and a delay provision using the headers of C-compiler, varying waveforms were obtained in CRO. Same phenomenon is used in traffic signal using micro-controllers.

### TECHNICAL SKILLS

- C, Microprocessor 8085 (Assembly Language)
- MATLAB, PSS, PSCAD, GAMS, DIGSILENT

### EXTRA CURRICULAR ACTIVITIES

- **Presented a Technical Paper** : Microprocessor based Power System Protection

### OTHER INTERESTS

Swimming, Watching movies and listening to music