

GAURAV SINGH BHANDARI

Date of Birth: Jul 30, 1991

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OBJECTIVE

Joining an organization, that provides me challenging environment, continuous progress and gives opportunities to apply my knowledge, skills & experience to positively impact organizational performance & profitability.

TRAINING

- **Alknanda Hydro Power Corp Ltd.** – 4 weeks training on Main Inlet Valve, that plays an important role in regulating and controlling the flow of water.
 - Main Inlet Valve is a control device of fluid pipe and its basic function is to connect or cut off the medium circulation inside pipeline, change the circulation and flow direction of medium, adjust pressure and flow of medium, protect the normal operation of the pipeline equipment.
- **National Thermal Power Corporation (NTPC) Ltd.** – 4 weeks training on Steam & Gas Turbine, used to generate electricity.
 - Learned the functioning of steam turbine. Steam turbine governing is the procedure of controlling the flow rate of steam into a steam turbine so as to maintain its speed of rotation as constant. The variation in load during the operation of a steam turbine can have a significant impact on its performance
 - Gas Turbine produces its own pressurized gas, and it does this by burning something like propane, natural gas, kerosene, jet fuel. The heat comes from burning fuel expands air, and high speed rush of this hot air spins turbine. Application of gas turbine to generate high thrust in Jet Engine.

EDUCATION

Degree/Class	School/Institute	Year of Passing	Score
M.Tech in Power Electronics & Drives	VIT University, Vellore	2014	8.54 cgpa
B.Tech in Instrumentation Engg.	H.N.B Garhwal University	2012	74.91 %
Std. XII, U.K board	SVMIC Srikot Ganganali	2007	74.48%
Std. X, U.K Board	HSSVM Srikot Ganganali	2005	69.5%

CERTIFICATIONS

- Participation certificate for 1 day training on (Realization of Control System Concepts using MATLAB/SIMULINK) conducted by TIFAC-CORE in VIT Vellore
- Certificate for presenting research paper in International Conference On Science ,Engg And technology Organized by VIT University Vellore-632014,Tamilnadu
- Certificate for presenting research paper in International Workshop On Emerging Trends in Energy System Management jointly Organized by Annamalai Univ and Center for Energy System Research, Tennessee Technological Univ during 14-16 March 2014

ACADEMIC PROJECTS

1. TEMPERATURE FAN CONTROLLER

Dec 11' – April '12

- **Functionality:** This project is based on fan speed control using Temperature. Temperature controller can be done by using Electronic circuit, Microprocessor or microcontroller. Now microcontroller is advanced among all above circuits therefore we are using Microcontroller for temperature controlling
- Microcontroller 89s51 forms the processing part, which firstly receives data from ADC. ADC receives data from temperature sensor through amplifier. Then microcontroller 89s51 performs the comparison of current temperature and set temperature for which microcontroller is already programmed. The result obtained from the above operation is given through output port of 89s51 to LCD display of relevant data and generated pulses as per the logic program which is further fed to the driver circuit to obtain the desired output of ceiling fan.
- Gained a thorough knowledge of **89s51 microcontroller programming**.
- Spent a significant amount of time in building fan controller using various electronics component.
- Involved in testing of the fan controller.

2. PERFORMANCE ENHANCEMENT OF MULTILEVEL INVERTER FOR HARMONIC MINIMIZATION USING PWM TECHNIQUES IN MATLAB/SIMULINK

July 12' – Dec 12'

- **Functionality:** This is a simple application of power quality designed in MATLAB/SIMULINK where several single phase inverters (H-Bridges) are connected in series for getting the step – size ac voltage. Each inverter's voltage is summed to generate MLI voltage for improving power quality and minimization of harmonics distortion. **SPWM Techniques** is used here to minimize harmonic distortion.
- Spent a significant amount of time in circuit creation using SIMULINK.

3. CONTROL OF MICROGRID USING PID CONTROLLER

Jan 13' – July 13'

- **Functionality:** This project involves in controlling the voltage and frequency of small power plant (Microgrid) with change in load using PID controller.
- Involved in Designing PID Controller using **Ziegler – Nichol** method for variation in load
- Involved in Modeling transfer function between input voltage, frequency and load
- Spent a significant amount of time in circuit creation using SIMULINK.

PUBLICATIONS

1. **Power Electronic Converters for grid Integrated Variable Speed Wind Turbine-** Published and Presented a research paper in the **"International Journal of Development Research"** held in **Annamalai University**.

- This paper represents dynamic modelling and simulation of variable speed wind turbine (VSWT) with grid and without grid connection using **MATLAB/SIMULINK**, a widely used power system analysis and dynamic tool.

2. **A Switching Function Concept Based Power Electronics Converters for grid Integrated Variable Speed Wind Turbine** - Communicated a research paper in **"Journal of Renewable Energy and Sustainable Energy"**.

- This paper represents to design and model the switching function of power electronic converter (3 phase multilevel level inverter) that aims capturing maximum power from generator.

3. **Implementation of Pitch Angle Controller for Variable Speed Wind Turbine-** Communicated a Research Paper in **"Frontier in Energy"**.

- This paper represents the way to design pitch angle controller for getting maximum power from wind speed.

TECHNICAL SKILLS and ACADEMIC COURSES

- **Programming Languages:** C.
- **Assembly Languages:** 80x85, 8051.
- **Tools :** Matlab/Simulink, Orcad, Psim
- **Platforms:** Windows

- **Application:** Ms-Office (Ms-Word, Ms-PowerPoint, Ms-Excel).
- **Academic Courses:** Digital Electronics, Control System, Signal and System, Transducer.

ACHIEVEMENTS

- Won 1st Prize at division level in Quiz Competition, a inter School competition.
- Topped 3rd & 4th semester during graduation.
- **Qualified in GATE 2016 and secure all India rank 696 in Instrumentation Engineering.**
- Participated in International Conference on Science, Engineering and Technology in VIT University, Vellore held from 8-9 Nov 2012.
- Participated in International Conference on Science, Engineering and Technology in VIT University, Vellore held from 8-9 May 2013.
- Participated in International Conference on Science, Engineering and Technology in VIT University, Vellore on 14 Nov 2013.
- Participated in Workshop on "Realization of Control System Concepts using MATLAB/SIMULINK" in VIT University, Vellore on 31 Jan 2014
- Presented a research article in the three day proceeding of the "International Workshop on Emerging Trends in Energy System Management" in Annamalai University, Chennai (14-16 March 2014), jointly organized by Annamalai University and Centre for Energy Systems Research and Tennessee Technological University (US).

EXTRA-CURRICULAR ACTIVITIES

- An active member in college functions and have compeered in various events.
- Participated in various speech competitions at school level.
- I have done coaching in ACE Engineering Academy, New Delhi
- I have good knowledge in control system, signal and system, circuit analysis, transducer, communication etc.

HOBBIES

Listening to music, Playing Cricket, Studying Motivational books.

PERSONAL DETAILS

- Father's Name : Rajendra Singh Bhandari
- Mother's Name : Nivedita Sheela Bhandari
- Date of Birth : 30 July 1991
- Nationality : Indian
- Language Known : English, Hindi
- Address : Vill. Jakhni post off-Kirtinagar
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