

BRIEF OVERVIEW / CAREER OBJECTIVE / SUMMARY

Passionate about Microelectronics and VLSI domains because I feel that in these fields I can give my best.
 Interested in learning upcoming Technologies and Space Related Stuffs.
 Xilinx Vivado | VHDL | MATLAB | Adobe Premier Pro | Microprocessor and Microcontrollers | PCB platform Software | Embedded systems and Design | Embedded C

KEY EXPERTISE / SKILLS

Xilinx VHDL Proteus NI Multisim Adobe Premiere Pro Adobe Photoshop Adobe Acrobat
 Intel 8085 Microprocessor Working and Architecture Intel 8051 Microcontroller Simulation Digital Communication LaTeX Breadboard
 Microsoft Word Microsoft PowerPoint Microsoft Excel IAR Embedded C Embedded Systems TIVA Board TM4C123GH6PM
 MEMS

EDUCATION

LNM Institute of Information Technology	2019 - 2023
B.Tech. - ECE CGPA: 7.25 / 10.00	
Kendriya Vidyalaya No.1 Kota, Kota	2018
12 th CBSE Percentage: 90.60 / 100.00	
Kendriya Vidyalaya No.1 Kota, Kota	2016
10 th CBSE Percentage: 95.00 / 100.00	

PROFESSIONAL EXPERIENCE

LNM Institute of Information Technology	March 16, 2022 - Present
Design and Implementation of FPGA (Back Propagation Neural Network) Under Dr. Vinay Kumar Tiwari	
Key Skills: Neural Networks FPGA Xilinx MATLAB VHDL Verilog	
In this Project we have given a FPGA board and we have a software prototype which we want to convert it into hardware prototype with the help of FPGA board using Xilinx and MATLAB, as this Project is currently under progress so further information will be given in the end of this project.	
LNM Institute of Information Technology	Aug. 1, 2021 - Oct. 15, 2021
Stochastic Geometry modelling and Analysis for Intelligent Reflecting Surface Application Under Mr. Purnendu Karmakar and Dr. Praful Mankar.	
Key Skills: Integral Calculus Wireless Communications Some knowledge about Reconfigurable Intelligent Surfaces	
This Topic is about Stochastic Geometry modelling and Analysis for Intelligent Reflecting Surface Application which requires knowledge of Integral Calculus, Stochastic Geometry, fundamentals of the capacity limits of MIMO systems, Rate Analysis for Millimetre - Wave Cellular Networks etc. Here we will discuss that how can we reduce the number of towers keeping 5G network speed constant in a particular area for which we will use RIS (Reflecting Intelligent Surface) on buildings and then by using Stochastic Geometrical approach we try to find the best possible combination in it.	

PROJECTS

Making of a Practical Lux Meter (Light Intensity Meter) using TM4C123GH6PM 32-bit Microcontroller using IAR Workbench and Embedded C Coding on IAR platform.	March 5, 2022 - May 5, 2022
Mentor: Dr. Deepak Nair Team Size: 2	
Key Skills:	
IAR Embedded C Embedded Systems TIVA Board About TM4C123GH6PM Basics about LDR Breadboard ADC Potentiometer	

In this report we will talk about measuring the light intensity using Light Dependent Resistor (LDR) or Photoresistor and TM4C123GH6PM which is a 32-bit Arm Cortex-M4F based microcontroller. We will first start with the observations by defining the relation between light intensity and resistance so that we can study the graph by manually plotting it, after noting the observations we will try to calculate the constants which we will obtain from our graph and also check its accuracy with the help of datasheet of LDR then we will make a potential divider circuit and take the analog reading of the voltage from it using TM4C123GH6PM and then we will manipulate that voltage to find the resistance of the LDR and ultimately doing calculations we will find the experimental value of Light Intensity for a given LDR, which is the aim of our project.

Link of the Project:
<https://github.com/Barnabh/Making-Lux-Meter-using-TM4C123GH6PM>

Try to make a very rough "Low-Field Magnetic Sensor with a Variable Capacitor" with the basic understanding of GMR Technology.

Mentor: Dr. Gaurav Chatterjee | **Team Size:** 1

Key Skills: GMR Technology MEMS Magnetics PVD and CVD Techniques Magnetoresistance Theorem

In this project we try to make a very rough Low-Field Magnetic Sensor with the help of GMR Technology, we study how the Giant Magnetoresistance (GMR) works and then try to use it in the modern world as a sensor. At last to get the basic idea that with the MEMS we can make a very subtle Magnetic Sensor using GMR Technology by understanding its concept.

Most Basic Function Generator Using Arduino Uno having single output.

Oct. 15, 2020 - Dec. 30, 2020

Mentor: Dr. Bharat Verma | **Team Size:** 1

Key Skills: Proteus LaTeX Circuit Design Arduino UNO Programming Arduino IDE Compiler Coding

In this project we will make Function Generator using Arduino Uno. Arduino Uno is a microcontroller board based on the ATmega328P, for writing the code we will use Arduino Uno IDE compiler and for running it we use PROTEUS which is a simulation tool.

This project includes development of a function generator using Arduino Uno, 8-bit DAC, Varying Frequency Circuit, Button Switch Circuit and a 16x2 LCD to generate waveforms of different frequencies and also involves a decent knowledge about Astable Multivibrator, Integrator and LM324 IC.

Link of the Project:

<https://github.com/Barnabh/Function-Generator-Using-Arduino-Uno>

Most Basic Function Generator Using PROTEUS having single output.

Aug. 1, 2020 - Oct. 15, 2020

Mentor: Dr. Sandeep Saini | **Team Size:** 1

Key Skills: Proteus LaTeX Circuit Design

In this project we will design a Function Generator with a single output on PROTEUS, that is, it can give you one waveform at a time. The Function Generator which we are designing in this project after completion will be able to produce 4 fundamental wave-forms which are Square Wave, Triangular Wave, Sinusoidal Wave and Sawtooth Wave.

It also involves a decent knowledge about Astable Multivibrator, Integrator and LM324 IC too.

Link of the Project:

<https://github.com/Barnabh/Function-Generator-Using-PROTEUS>

CO-CURRICULAR ACTIVITIES

- Pianist
- Footballer

EXTRA CURRICULAR ACTIVITIES

- Youtube Channel
- Making Intros

PERSONAL INTERESTS / HOBBIES

- Pianist
- Playing Guitar
- Footballer
- Astronomy
- Competitive Gaming

WEB LINKS

- LinkedIn - https://in.linkedin.com/in/barnabh-goswami-b270b41a6?trk=public_profile_browsemap
- Github - <https://github.com/Barnabh>

PERSONAL DETAILS

Gender: Male

Marital Status: Unmarried

Current Address: D - 28, Gyan Sarovar Colony, Bundi Road, Behind St. John's School, Kota, Rajasthan, India - 324008

Emails: 19uec161@lnmiit.ac.in , Barnabhgoswami@gmail.com

Date of Birth: Jan. 17, 2001

Known Languages: Hindi, English, Bengali and Japanese (Elementary Level but aiming to master it).

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