Hrit Mukherjee

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Kolkata

EDUCATION

Bachelor of Engineering (B.E), Electronics And Telecommunication Engineering (ETCE) (2017 - 2021)

Jadavpur University

CGPA : 9.30/10

XII (Senior Secondary), Science

Year of Completion: 2017

WBCHSE(WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION) Board (NAVA NALANDA HIGH SCHOOL)

Percentage : 96.40%

X (Secondary)

Year of Completion: 2015

WBBSE(WEST BENGAL BOARD OF SECONDARY EDUCATION) Board (NAVA NALANDA HIGH SCHOOL)

Percentage : 94.00%

INTERNSHIPS

Analog/Mixed Signal Design Engineer

Variable Energy Cyclotron Centre (VECC) (Kolkata)

May 2019 - Jul 2019

Worked in the ASIC lab,C-I Group.

Project: Designing a Low Power High Resolution High Speed Analog/Mixed signal 9 bit DAC, as per given specifications.

Skills required:Analog Circuits, PCB Design

Simulators used:LT Spice and Cadence

Hardware:PCB

POSITIONS OF RESPONSIBILITY

- Fantasy for Innovation (Srijan-Technological fest of Jadavpur University) – Executive Committee Member.

- IEEE Student Member, Kolkata Section
  • Member of the Management team of Jadavpur University Student Branch of IEEE, Kolkata Section.
  • Working under an active project, “tete-a-tete with IEEE”.
- Co-ordinator at Jadavpur University Science Club
- Co-ordinator at Jadavpur University Code Club

TRAININGS

Web Development

Internshala Trainings (Online)
Jun 2018 - Jul 2018

A six week online Summer training on the basics of Web Development.The learning phase of the program consisted of HTML,CSS,Bootstrap,SQL and PHP modules , while the application phase included building beautiful , responsive and dynamic websites.

RC Trainer Plane Workshop

Boeing National Aircraft Company (Kanpur)
Nov 2017 - Nov 2017

Member of Team Highfliers,Dept. of ETCE, Jadavpur University.
Project: Designing a high winger aircraft following the given specifications. Flight test was conducted successfully at airstrip, IIT Kanpur.
Mentor: Prof. Dr. Shantanu Bhattacharya.

PROJECTS

Hurry-Cane

Jan 2020 - Feb 2020
https://github.com/Hrit-mukherjee/Hurry-Cane

Project: An electronic stick which is aimed to provide artificial vision to the visually impaired people by facilitating in their safe and independent terrestrial locomotion.
Hardware: Arduino,RaspberryPi,Sensors and Actuators.

A Comparative Analysis of Analog Performances of U-DG AlGaN/GaN based MOS-HEMT and Schottky-HEMT

Oct 2019 - Nov 2019

https://hrit-mukherjee.github.io/178.pdf

Project: Completed a research which presents the comparison of electrical characteristics of SchottkyHEMT and MOSHEMT, establishing superiority of MOS in RF and Power applications.
Specifications: Channel=180 nm, Underlap=200 nm.
Simulator: TCAD

Designing a low power high speed high resolution Bipolar DAC.

Oct 2019 - Oct 2019

Project: Design of a low power high speed unipolar n bit analog/mixed-signal DAC using VLSI 180 nm CMOS technology with output range normalized from -1 to +1 Volts.

Low Complexity Generic VLSI Architecture Design Methodology for Nth Power and Nth Root Computations

Oct 2019 - Oct 2019

Project: Nth root and Nth power computations performed using binary logarithm binary inverse relation, using Verilog Hardware Description Language, yielding much less power consumption and chip area.

Training a Medical Image Classifier to attain a High Accuracy for proper diagnosis of Brain Cancer

Jan 2019 - Apr 2019

Project: Efficient compression of medical images via Compressed Sensing and Compression techniques.
Training a CNN model which will provide the measure of accuracy for any medical result namely MRI etc.

Electronic Alarm

Dec 2018 - Jan 2019

Project: An alarm system built using a constant current source and a low input impedance opamp which activates depending on the amount of current flowing through its terminals.
Implementation in Hardware platform, verified by Software Simulation.

Electrophoria'18

Sep 2018 - Oct 2018

https://github.com/Electrophoria

Project: A website that aims to keep alive the memories of fresher's welcome party at JU ETCE or fondly known as Electrophoria.
The project is mainly built on the following tech-stack:
1.HTML
2.CSS
3.JavaScript
4.Bootstrap
5.jQuery

Lifestyle Store

Jun 2018 - Jul 2018

https://github.com/Hrit-mukherjee/Lifestyle-store

Project: Designed an e-commerce website from scratch using HTML-5 , CSS-3 , Bootstrap , MySQL and PHP. The website is dynamic and responsive and deployed on Netbeans and pushed onto Github.

Arm of Achelous

Dec 2017 - Jan 2018

https://www.youtube.com/watch?v=onybXP_fSGM

Project: built a basic hydraulic arm bot. The locomotive part was electrically powered. The controller is wired and is basically a dpdt (double pole double throw) control.

SKILLS

GitHub

Advanced

MATLAB

Advanced

Image Processing

Advanced

Digital Signal Processing

Advanced

Embedded Systems

Advanced

Analog And Digital Circuits

Advanced

Internet of Things (IoT)

Intermediate

PCB Design

Intermediate

FPGA Synthesis and Prototyping

Intermediate

WORK SAMPLES

GitHub Profile:

https://github.com/Hrit-mukherjee

Other Portfolio Link:

https://www.linkedin.com/in/hrit-mukherjee-685549160/

Blog Link:

https://hrit-mukherjee.github.io/

ADDITIONAL DETAILS

- Secured 8th position in Higher Secondary Examination,2017
- Ranked 202 in WBJEE(West Bengal Joint Entrance Exam)Engineering in 2017
- Winner, multiple times, in DhrisTI online contest (Analog Electronics) organised by Texas Instruments.
- 2nd Runner-up, Electroniche(a competitive event involving circuit solving and designing and simulating circuits based on given specifications), organized by Srijan'19 (technological fest of Jadavpur University).
- 2nd Runner-up, Anveshan 2019-20: Student Research Convocation (East Zone), Social Science Category.
- 1st Runner-up, Papier(a competitive event involving practical embedded systems prototype building and model demonstrations based on given specifications), organized by Convolution'20 (technological fest of Jadavpur University Electrical Engineering).