Hrit Mukherjee

Résumé

Date of Birth:- 04/09/1999
Phone:- +91 7003313883
Email:- hritmukherjee@gmail.com
Address:- 50 B Purba Pally, Kasba, Haltu, Kolkata-700078

Research and Industrial Work Experience

Summer Research Intern, Variable Energy Cyclotron Centre (VECC), Kolkata, India. May'18-July'18.	**Low Power High Resolution High Speed DAC design:** Worked as a summer intern under the ASIC team and successfully completed the design of a Low Power High Resolution High Speed 9 bit DAC using 180 nm TSMC CMOS technology. The proposed DAC was designed following current steering architecture and consists of two separate DACs, a 6 bit fine and a 3 bit coarse, whose individual responses have been added up using a non-inverting opamp. **Design Specifications:** Resolution = 1mV, Power Consumption =1.6mW (Battery used = 1.8V and LSB current = 2μA).

Academic Background

2017 - present	**Jadavpur University**, Kolkata, India. Third Year, Bachelor of **Electronics and Telecommunication Engineering** (2017-2021) . **SGPA:- 9.13** (1st year 1st semester) **Class Rank:- 7** **9.12** (1st year 2nd semester) **Class Rank:- 4** **9.22** (2nd year 1st semester) **Class Rank:- 4** **9.47** (2nd year 2nd semester) **Class Rank:- 5**
2017	**Higher Secondary Examination**, West Bengal Council of Higher Secondary Examination. **Nava Nalanda High School**, Kolkata, India. **Percentage: 96.40%** **State Rank: 8**
2015	**Madhyamik Examination**, West Bengal Board of Secondary Examination. **Nava Nalanda High School**, Kolkata, India. **Percentage: 94.00%** **Percentage (Science Group): 99.67%**

Internships and Schools Attended

Summer Research Intern, Variable Energy Cyclotron Centre (VECC), Kolkata, India. May'18-July'18.	Worked under the **ASIC section, Computer and Informatics Group, VECC, Kolkata** under the mentorship of Dr. Tanushyam Bhattacharja. Project: designing a **Low Power High Resolution High Speed Digital to Analog Converter.** Software Simulators used : **LT Spice and Cadence**
Finalist, Arm of Achelous, Kshitij, IIT Kharagpur. December'17-January'18.	Member of **Team Highfliers, ETCE, Jadavpur University** 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.
Trainee, Remote Control Plane Workshop, IIT Kanpur. November'17.	Member of **Team Highfliers, ETCE, Jadavpur University** Project: designing a **high winger aircraft** following the given specifications. **Flight test was conducted successfully** at airstrip, IIT Kanpur. Mentor: Professor Dr. Shantanu Bhattacharya.

Projects

1. **Training a Medical Image Classifier to attain a High Level of Accuracy for proper diagnosis of Brain Cancer**
-Research project under the guidance of Dr. Amitava Mukherjee, Senior Researcher, Dept. of ETCE, Jadavpur University (1982-1995)

- 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.

2. **Electronic Alarm**
-Personal project (Dec'18)

An alarm system built using a constant current source and a low input impedance operational amplifier which gets activated depending on the amount of current flowing through its two terminals.

Areas of Interest

1. Design of Electronics Devices and systems.
2. Finite State Machine design using Digital logic.
3. Microprocessor and Microcontrollers.
4. Digital Signal Processing and Image Processing in time, frequency and wavelet domain.

Some of relevant course-works done

1. **Physical Electronics and Electron Devices**, Professor Dr. Chayanika Bose, Dept. of ETCE, JU.
2. **Razavi Electronics 1** – by Behzad Razavi.
3. **Analog Circuits** and **IC Design –** by Dr. Nagendra Krishnapura, ECE, IIT Madras.
4. **Engineering Electronics II and Analog IC Design (Spring, 2019)** - by R. Jacob Baker, PhD, PE,University of Nevada, Las Vegas.
5. **Digital logic circuits** and **Digital systems**, Professor Dr. Mrinal Kanti Naskar, Dept. of ETCE, JU.
6. **Control Theory**, Professor Dr. Amit Konar, Dept. of ETCE, JU (ongoing).
7. **Microprocessors and Microcontrollers,** Professor Dr. P. Venkateswaram, Dept. of ETCE, JU (ongoing).

Skillset

1. Programming: C, Python, Matlab.
2. Operating Systems: Windows, Linux.
3. Software Simulators: LT Spice, P Spice, Circuit Maker, Cadence(learning), Verilog(learning).
4. Typesetting tools and version control: Latex, Git & Github.

Some of Honors and Awards

1. Secured 8th position in Higher Secondary Examination, 2017.
2. Ranked 202 in WBJEE (West Bengal Joint Entrance Examination), 2017.
3. 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).

Responsibilities Holding / Held

1. IEEE *Student Member, Kolkata Section*

- Management co-ordinator: Member of the Management team of Jadavpur University Student Branch of IEEE, Kolkata Section.
- Video-Editor: Working under an active project, "*tete-a-tete* with IEEE".

2. Jadavpur University Code Club – Co-ordinator.

3. Jadavpur University Science Club – Member.

4. Fantasy for Innovation (Sriajn'19) – Executive Committee Member.

5. Electrophoria'18(Departmental Freshers') – Core Member of the backdrop design team and web team.

Languages Known

1. Bengali- Native proficiency
2. English- Full working proficiency.
3. Hindi- Limited working proficiency.

Hobbies

Drawing, especially pencil-sketching.
Website designing.
Video Editing.
Reading story books and comics.
Listening to Music and Podcasts.
Watching Football.

Referees

Dr. Mrinal Kanti Naskar – Professor
Department of Electronics and Telecommunication Engineering, Jadavpur University.
Email: mrinaletce@gmail.com

Dr. Chandrima Mondal – Professor
Department of Electronics and Telecommunication Engineering, Jadavpur University.
Email: chandrima.m@gmail.com