

AYUSH AGARWAL

ACADEMIC PROFILE

Degree/Certificate	Institution	Percentage/CGPA	Year
B-Tech	Electronic Engineering IIT (BHU), Varanasi	9.10	2024
CBSE (XII)	K.R.Manglam World School	97.20	2020
CBSE (X)	K.R.Manglam World School	95.00	2018

SKILLS

Tools : Verdi, Jaspergold, MATLAB, Vivado , Proteus, OrCAD, Simulink, EagleCAD, Fusion 360, Arduino, Perforce, gVim

Programming Languages : C ,C++, Python, SQL

GITHUB ID : <https://github.com/ayush-agarwal-0502> (Contains all my projects code and documentations)

INTERNSHIP/TRAINING

ASIC Design Intern Nvidia - SFV SLCG + Netlist Linting over USB

- **Tools :** Verdi, Jaspergold, System Verilog Assertions (SVA), Viva, Perforce, Unix, gVim
- Performed Semi-Formal Verification over Second Level Clock Gating Modules. Deployed SLCG SFV flow over **3 modules**. Coded RTL changes in Nvidia's internal language Viva.
- Analyzed signals, discovered and debugged **1 RTL bug**. Coded SVA assumptions to drive Jaspergold's Miter Construction. Created quality **documentations** on Nvidia's official page "Confluence".
- **Analyzed ~8000 Netlist Linter outputs** to ensure best practices are followed in the netlist.

PROJECTS

INNOVATIVE ELECTRONIC DOOR

- **Exposure :** Verilog , Digital, Analog Electronics, mechatronic system designing, Vivado, Proteus, ASIC Design
- A cost effective multi-featured Electronic door which can be operated contactlessly, has privacy , password , emergency mode , opens automatically during fire , can indicate crowiness inside room and can automatically switch on light when person inside [GitHub link](#)

VOICE CONTROLLED MECANUM BASED FORKLIFT (VOCMEF)

- **Exposure :** Mechatronics, Robotics, Machine Learning, Electronics, IoT, Communications, Arduino, CAD (Fusion 360)
- A redesign of the presently available forklifts to counter faced challenges like toppling of goods, low capacity etc .
- Voice signal sent into microphone , detected by Deep Learning based Model (86% accuracy) , encoded into binary ,converted into Hamming Code , then sent over bluetooth to VOCMEF's Microprocessor which then performs the required motion . [GitHub link](#)

POSITION OF RESPONSIBILITY

Digisim Coordinator - Udyam 22 (Digital Electronics competition, ECE Department fest)

- Introduced the culture of **PCB Design** and **backend VLSI** to IIT BHU, 50+ juniors made their 1st PCBs .
- Designed multiple real life based digital electronics **practice problems** biweekly (Q collection now converted to [Book](#) freely available on linkedin). Made the final PS- EVM on PCB , Model Blockchain digital electronics etc.
- **Guided juniors** for preparation for exams for core electronics companies like Nvidia, Texas Instruments, Qualcomm.

HONOURS AND ACHIEVEMENTS

1st POSITION IN COMMNET UDYAM IIT BHU: Digital Communications Event. (Made BPSK on MATLAB)

1st POSITION IN CONTINUUM UDYAM IIT BHU: Analog Electronics Event.(Analog Calculator, Differential Eq Solver)

3rd POSITION IN X-IoT-A UDYAM IIT BHU : Internet of Things(IoT) event .(Made Innovative Oscillating Fan)

3rd POSITION IN SIMULIM PRASTUTI IIT BHU: Power Electronics Event. (Used Simulim)

2nd IN ART OF FLIGHT AMC TECHNEX: FPV Drone Flying event.(Used FPVFreeRider Drone Simulator)

6th POSITION IN IDEEAVOLT ,IIT ROORKEE : Idea Pitching Competition.(Made Innovative Electronic Door)

2nd POSITION IN IMPEDANCE SOLUTIONS AIT: General Electronics Event

1st POSITION ELECTRONICS COMPETITION BIT MESRA

EXTRA-CURRICULAR ACTIVITIES

2nd POSITION in Sanlayan Bandish , KASHIYATRA , solo instrumental competition (GUITAR) .

Hobbies : Guitar, Photography, Dance

T: 9112647721 **E:** ayush.ag.05@gmail.com **Address:** Not given