Utkarsh Mishra

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EDUCATION

IIIT HYDERABAD
B.tech in Electronics and Communication
2018 - Present | CGPA:7.87/10

ST. ALOYSIUS SCHOOL
CBSE Class X
2008 - 2016 | CGPA:10

MARBLE ROCKS SCHOOL
CBSE Class XII
2016 - 2018 | Percentage:91.8 %

SKILLS

C/C++/Python
Competitive coding :
• Codeforces handle : v.utkarsh01(Curr. Rating 1550, specialist)
Others :
• Javascript • Bash • Verilog • HTML • CSS

Tools:
• Xilinx • Arduino • Cadence • Matlab

ACHIEVEMENTS

JEE Mains Rank - 2496 out of 1.2 million students
JEE Advanced Rank - 6795 out of 0.23 million students
CANSAT College team (Rank 65th in All India)
Rank 832 in Google Kickstart Round F
Qualified for Google Code Jam

POSITIONS OF RESPONSIBILITY

Member, Programming Club @ IIITH(2018-Present)
Member, Student life committee @ IIITH(2018-2019)
Member, Felicity Organising Team @ IIITH(2018-Present)
Student Mentor for the freshers (2019)

WORK EXPERIENCE

COMPUTER SYSTEMS GROUP(CSG), IIIT HYDERABAD | Undergrad Researcher
May 2020 – Present
• Working as a research student with Professor Venkata Suresh Reddy Purini.
• Aiming to design an android app which outputs the number of rallies played in table-tennis by processing voise through Deep learning.

PROJECTS

PROCESSOR IN VERILOG Designed and implemented processor in Verilog language, which takes machine codes as input in the instructions memory and outputs the corresponding results. Special Algorithms namely bubble sort and simple instructions were implemented.

IOT BASED SMART PARKING SYSTEM Implemented an IoT based project using Raspberry pi, which facilitates user online availability for slots. The components used are - raspberry pi, RF-ID reader, RF-ID cards, and IR sensors. User uses RF-ID cards to enter/exit this parking slot. Based on the time parked, the bill is sent to user through e-mail. The system is fully automatic and also features to register a new user.

AUDIO AMPLIFIER Audio amplifier which takes analog input through mic, gets processed through various stages namely - pre-amplifier , gain-stage, volume-bass-treble controller, filter and power amplifier, and outputs the signal via speaker.

ASIC AND FPGA IMPLEMENTATION OF REVERSIBLE 16-BIT ALU Designed and implemented Reversible 16bit ALU using reversible gates in verilog , ISE Xilinx and Cadence. This was much power and area efficient as compared to conventional ALU's.

DOT-JUMP GAME Built a replica of Chrome dragon jump game in hardware using LEDs, without using any micro-controller. Obstacles were also generated randomly and score was tracked.

PYTHON GAME Designed game in Python using PyGame library. The game involves generation of random obstacles with increasing speed, avoiding which player needs to collect as many coins as possible. Game supports live display of score and playback sound effects & music.

LINUX SHELL IN C Implemented Linux shell in C that supports piping and all basic Unix commands.

RELEVANT COURSES

COMPUTER SCIENCE Computer Programming, Data Structures, Intro to Processor Design.

ELECTRONICS Analog Electronics Circuits, Communication Theory, Communication and Controls in IoT, Digital Systems and Micro-controllers, Electronic Workshop -III ,Intro to Bio Electronics, Introduction to Information Systems, Network Signals and Systems, Signal Processing, Systems thinking, VLSI design.

MATHS Linear Algebra, Probability and Random Processes, Real analysis.

MOOCS Machine Learning (Coursera), Developing FPGA-accelerated cloud applications with SDAccel: Theory & Practise(Coursera).