Utkarsh Mishra

utkarsh.mishra@students.iiit.ac.in | +91-7665422091
github : vutkarsh01 | linkedin : utkarsh-m-394060a7

EDUCATION

IIIT HYDERABAD
B.tech(Hons.) in Electronics and Communication Engineering
2018 - Present | CGPA:8.28/10

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

CP

Google Kickstart
- Round F'19 - 832nd
- Round G'19 - 2049th
- Round A'20 - 3563rd
- Round B'20 - 4274th
- Round D'20 - 8252nd

Google Codejam
- Qualified for Codejam 2020
- Round 1A 2020: 5977th

Codeforces
- Handle: v.utkarsh01(1586, Specialist)
- Round 661 - 497th
- Round 658 - 1076th
- Round 586 - 1367th

SKILLS

C/C++/Python
Others :
• Verilog • HTML • CSS • SQL

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)
Qualified for **Google Code Jam** and **Facebook Hackercup**

POR

Member, Programming Club @ IIITH(2018-Present)
Member, Student life committee @ IIITH(2018-2019)

ACADEMIC PROJECTS

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

EMOTION RECOGNITION MODEL Implemented a **Support vector machine based Machine learning model** which predicts emotion in a large audio database which comprised of **10 speakers** and ***6 emotions*** in **German language.**

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

INDIVIDUAL PROJECTS

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 **basic Unix commands.**

AI TIC TAC TOE BOT Designed Unbeatable Tic Tac Toe Bot using **Minimax AI Algorithm** using JavaScript.

RELEVANT COURSES

COMPUTER SCIENCE Data Structures and Algorithms, Operating Systems, C Programming.

MATHS AND ELECTRONICS Speech Signal Processing, Communication and Controls in IoT, Linear Algebra, Probability and Random Processes, Digital Systems and Micro-controllers.