Ram Bahadur Mahara

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PROJECTS

1. **ORCA_TOP – 28nm** Physical Design project at **VLSIGURU**
    - Hard macros - 40 | standard cells - 62k | Metal Layers – 9 | Max frequency - 450MHz |No of clocks -5
        - Developed a **block-level** (**RTL2GDS**) **multi-voltage** design project at **28nm technology**.
        - Imported design using **NDM**'s
        - Conducted 4+ design iterations for creating **core area** and **die area**
        - Wrote a **script** in **TCL** to locate ports.
        - **Placed macros** according to guidelines to meet timing and reduced congestion
        - Understood UPF and created **voltage area** for power domains with VDDH – 1.16v and VDD – 0.75v
        - Carried out **power planning** and **fixed issues** after power planning
        - Performed Placement and **CTS** with minimum **congestion and timing violations**
        - Did **routing** and fixed shorts and **DRC violations** after routing
        - Conducted **timing ECO** in ICC2, executed **signoff RC extraction**, and closed timing using **Primetime**

2. **Volcano – 28nm Physical Design project at VLSIGURU**
    - Hard macros - 34 | standard cells - 44k | Metal Layers – 9 | Max frequency - 650MHz |No of clocks -5
        - Implemented **floor planning** to satisfy **time, powe**r, and other design condition after importing the design using **NDM**.
        - Performed **Placement** and **CTS** with minimum **congestion** and **timing violations**
        - Did **routing** and fixed **shorts** and **DRC violations** after routing

3. **Smart Manhole management system –** Final Year Project in B.E. at **K.S INSTITUTE OF TECHNOLOGY**
    - ESP32 microcontroller and the Fast2sms SMS service were used to develop a real-time, intelligent Smart manhole management system.
    - The proposed project could gather input from various sensors such as water level sensor, Gas sensor, and Tilt sensor and was able to notify the authorized individual.
    - Project also had an LCD display that could be used to identify any malfunctioning sensors, and this information displayed can be used to correct/replace the component.
    - The tool used was Arduino IDE with C language
    - We were able to secure funding of 7000rs from the Karnataka State Council for Science and Technology (KSCST)

EDUCATION

K.S INSTITUTE OF TECHNOLOGY | Bachelor of Engineering (B.E) |Bangalore | 2022
Concentrations: Electronics and communication (ECE) | CGPA: 6.6

RNS PU college | Bangalore | 2018
Pre-University College (PUC) |Percentage 61%

HILSIDE PUBLIC SCHOOL | Bangalore | 2016
SSLC (10th) | Percentage 70.04%

VLSIGURU | Apprenticeship |Bangalore | February 2023
Concentrations: Physical Design trainee

SKILLS & INTERESTS

- **Technical skills:**
    - Good knowledge of Floorplan |Placement| CTS| Routing| Static Timing Analysis
    - Fundamental knowledge of digital electronics| Transistors| CMOS design| IC fabrication Process| Power planning
    - Good understanding of | various timing reports during STA| Global routing| detail routing |Synthesis that is RTL to Gate level conversion
    - Hands-on experience in working with ICC2|Prime Time| StarRC/Xtract| Linux| TCL scripting & programming concept
    - Timing ECO |Fixing DRC / LVS
- **social skills** - good at communicating and interacting with others | good at analyzing |
- **Languages** - Fluent in English, Kannada, and Hindi