



PULKIT AGRAWAL

+1-858-943-8811 | p3agrawal@ucsd.edu
in/pulkitag22 |  /pulkitag22 |  /pulkitag22.github.io

EDUCATION

University of California, San Diego, CA

MS in Electrical & Computer Engineering (Major: Computer Engineering)

Class of 2023

Sept 2021 – Present

Coursework: Low-power VLSI Implementation for Machine Learning, Principles of Computer Architecture, VLSI Digital System Algorithms and Architecture.

Birla Institute of Technology and Sciences (BITS) Pilani, Goa Campus, India

BE (Hons.) in Electronics & Instrumentation Engineering

CGPA: 8.39/10

Aug 2015 – May 2019



Coursework: Computer Architecture, Digital Design, Microprocessors and Interfacing, Operating Systems, Real-Time Systems, Data Structures and Algorithms, Network Embedded Applications, Introduction to C Programming.

EXPERIENCE

Research Assistant (Remote) - Prof. Akash Kumar |

Oct 2020 – June 2021

CFAED, Technische Universität Dresden, Germany 

- Worked on Logic Synthesis and Boolean Network classification. Used ABC Logic Synthesis tool  and MockTurtle (logic network representation and manipulation library) .
- Created libraries for evaluating self-duality of a boolean function and added functional support to return the Self-dual equivalent class for n-input boolean functions.

Firmware Engineer

Sept 2020 – July 2021

Amplify Mobility Pvt. Ltd. 

Hyderabad, India


- Developed **C/C++** based firmware for AC & DC Electric Vehicle Charging Stations.
- Implemented application protocol, **Open Charge Point Protocol (OCPP)**, for the charging stations designed using **STM32** and **ESP32** micro-controller.

ASIC Design Intern

July 2018 – Dec 2018

Nvidia Hardware 

Bangalore, India

- Worked with the **SOC Clocks Team** worked on generating Register-transfer-level (RTL) for **Tegra SOC**  - 'Orin' using a novel automated framework.
- Used **Synopsys SpyGlass** to generate lint reports to categorize about 35,000 errors. Wrote **Python/Perl** based scripts to automate the rectification process.

TECHNICAL SKILLS

Languages: Python, Perl, C/C++, Embedded C, Verilog, System Verilog, MASM (Assembly Language)

Developer Tools: Git, PyCharm, Arduino IDE, CubeMX (STM32) IDE, Keil μ Vision, Eclipse, ModelSim Altera

PROJECTS

RISC Processor Synthesis | Computer Architecture, Verilog

March 2018 – April 2018

- Implemented 32-bit **MIPS Architecture** with a simple Arithmetic Logic Unit (ALU) and Control Unit in **Verilog**.
- Designed a Hazard Unit to take care of any potential hazards and wrote test benches to test the pipeline architecture.

Approximate Adder Circuits | Cadence RTL Compiler, Verilog

Jan 2018 – April 2018

- Implemented various single-level and multi-level approximation adder architectures in **Verilog** and compared them with exact architecture.
- Used **Cadence RTL Compiler** to synthesize the design and the post-synthesis reports to compare the architectures.


Multiplications of 'N' complex numbers | Multi-threaded Programming, C |

Oct 2019 – Nov 2019

- Implemented a multi-threaded **C** program using **POSIX Threads** library, for multiplying 'N' complex numbers.
- Created pairs of 'N' complex numbers and performed concurrent multiplication using threads. Stored the result of each pair using dynamic memory allocation.
- Values from the multiplication of each pair were then used to create new pairs until the result was obtained.

Scheduling Algorithms for Real-Time System | ADA Language, Cheddar Simulator |

Aug 2017 – Sept 2017

- Implemented user-defined scheduling algorithms for real-time systems in **ADA Language** used by **Cheddar Simulator** (developed by UC Berkeley .
- Designed a hybrid algorithm, dynamic-priority scheduling class, where the tasks with zero laxity was given the highest priority.