Curriculum Vitae
Priyal Chhatrapati

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EDUCATION

BITS PILANI
B.E. Electronics and Instrumentation Engineering - 9.05/10 CGPA — *Aug 2016 – May 2020*

R.N. PODAR SCHOOL — *Mumbai, India*
Class XIIth Exam – 92% — *May 2015 – Aug 2016*
CBSE Class Xth Exam – 9.8 CGPA — *May 2013 – May 2014*

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Java, Embedded C, Assembly (MIPS, RISC-V, ARM)
- **HDL:** Verilog, SystemVerilog
- **Softwares:** MATLAB, Proteus, Keil
- **Microprocessors and Microcontrollers:** 8086, ARMv7, MIPS, Arduino, LPC2378, STM32

WORK EXPERIENCE

Sifive — *Bangalore, India*
Trainee Engineer — *August, 2020 - Present*
- *Trainee Engineer as a part of the FPGA team*

National University of Singapore — *Singapore*
Intern — *August 2019 – December 2019*
- *Fault Tolerant DNA Storage Codec Design in Python*

RISE labs, IIT Madras — *Chennai, India*
Summer Intern — *May 2019 – July 2019*
- *CNN Systolic Array Accelerator for Shakti C Class Microprocessor*

IGCAR, Kalpakkam — *Kalpakkam, India*
Embedded System Intern — *May 2018 – July 2018*
- *Design and Development of Density Meter using Quasi Digital Sensors*

RELEVANT PROJECTS

Drop Dead Chat Client using FLUSH RELOAD ATTACK (C++) — *June 2019 – August 2019*
- *Sender and Receiver talk to each other without using IPC mechanisms(Message passing, shared memory)*
- *Receiver spying on Sender using Flush Reload attack on Shared LLC*

Trace based L1 Cache Simulator (C++) — *June 2019 – August 2019*
- *L1 cache with LRU replacement scheme*
- *Configurable Associativity, Block Size and Cache Size*

Development of in order Microprocessor using Verilog — *Jan 2019 – May 2019*
- *MIPS based Fixed Length Instruction Set Architecture*
- *Microprocessor equipped with a 5 stage pipeline with Forwarding*

Machine Learning Accelerator supporting AXI4 bus (Verilog) — *June 2019 – August 2019*
- *Systolic Array accelerator for the Shakti C class microprocessor*
- *Easily Portable, LightWeight accelerator with custom Dataflow*

MISCELLANEOUS PROJECTS

Fault tolerant Approximate DNA data storage (Python)

- *Reed-Solomon Error Correction Codes*
- *Implementation of Codec with approximate Computing*

Smart Overhead Tank using 8086 and peripherals

- *Interrupt Based system to manage water levels in a tank according to usage and time of the day*
- *Code written in Assembly*

Development of a Multi-Level AdHoc Network using Zigbee Protocol

- *Interfacing sensors to measure water quality*
- *Testing with Payloads from the sensors on each node*

Arithmetic Test

- *Microcontroller interfaced with a keyboard, buzzer and LCD screen.*
- *Asks Random arithmetic questions*

Home Automation

- *Microcontroller interfaced with sensors, switches and motors*
- *Can read and control light, fan speed*

USB Speaker System

- *Microcontroller connected with SD/MMC Card with songs*
- *Real time Speaker using ADC*