Manikandan Gunaseelan

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EDUCATION

BITS Pilani, K K Birla Goa Campus — Current GPA : **7.53/10**
BE (hons) Electronics and Communication Engineering — *Aug. 2018 – Present*

DAV Public School, Pune — Score : 92.8%
Grade XII — *May 2018*

DAV Public School, Pune — GPA : 10/10
Grade X — *May 2016*

SKILLS AND COURSEWORK

Relevant Coursework: Computer Architecture, Digital Design, Microprocessor Programming and Interfacing, Digital Communication, Cryptography, Digital Signal Processing, Analog Electronics

Technical Skills: Verilog, C, C++, Python, GNU/Linux, Bash Scripting, MATLAB, Simulink, LTSpice, Xilinx Vivado, ModelSim, Cadence Virtuoso, Proteus 7

PROJECTS

Implementation of MIPS Processor in Verilog | *Computer Architecture* — Mar 2021 – Apr 2021
- GitHub Links : pipelined-processor and single-cycle-processor
- Verilog implementation of pipelined and single-cycle (modified) MIPS processors
- Single cycle processor had a floating point addition instruction which used a separate IEEE754 Floating point adder module
- Pipelined processor with a forwarding unit, hazard detection unit and basic branch prediction to tackle data and control hazards
- Understood the basics of processor working and design, the differences between single-cycle and pipelined processors, and the handling of various hazards that arise when working with a pipelined processor

Parking Garage System using LM741 Op-Amp | *Analog Electronics* — Mar 2021 – Apr 2021
- GitHub Link : parking-garage-system
- Using Op-Amp 741, designed a parking garage system which counts the number of cars entering and leaving the garage and displays whether the garage is full (or half full) on LEDs at the entrance
- Simulation of the design on LT-Spice and testing the design for different inputs

Spirit Level Reaction Time Tester | *Microprocessor Programming* — Mar 2020 – Apr 2020
- GitHub Link : spirit-level-tester
- Implemented a reaction time tester on the Intel 8086 Microprocessor which checks a person's sobriety based on their reaction time in pressing a button upon seeing a sequence of LEDs
- Also included a simulation on Proteus 7 using the x86 Assembly language

EXPERIENCE

Summer Intern — May 2020 - June 2020
Data M Intelligence — *Hyderabad, TS*
- Learnt about SEO techniques and performed lead generation for the markets of hundreds of products over a six week period
- Automated a task of updating multiple services and search engines about changes to the website using the Selenium library of Python

CERTIFICATIONS

Google IT Support Professional Certificate | *Coursera* — July 2020
- Included courses on Networking Fundamentals, Operating Systems, System Administration and IT security
- Verilog implementation of pipelined and single-cycle (modified) MIPS processors
- Hands-on experience in the form of virtual labs conducted on Qwiklabs

Introduction to Data Analytics for Business | *Coursera* — June 2020
- Learnt about the data analytics practices executed in the business world - how data is created, stored, accessed and then later analysed
- Involved a module on the basics of SQL