Milind Prajapati

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Please visit : milindprajapati.github.io

EDUCATION:

New Jersey Institute of Technology *May, 2019*

M.S., Computer Engineering *3.3/4*

(Courses: VLSI Design, Embedded Systems, Operating systems, Machine Learning, Computer Systems and Architecture, Master's Project*,* Computer Arithmetic Algorithm, Digital Signal Processing Lab, Data Structure and Algorithms, Management of Technology*)*

L.D College of Engineering *May, 2016*

B.E., Electronics and Communications *3.3/4*

SKILLS:

- **Programming:** Python, C, C++, C#, Embedded C, Verilog, VHDL, CUDA, Linux Shell/Bash Scripting
- **Software:** KEIL MDK, Visual Studio, FREERTOS, MATLAB, OPENSYSTEM W/B, Proteus, GIT, Altera Quartus, MultiSim, Xilinx Vivado, Arduino IDE, ATMEL STUDIO, Tensorflow, Pytorch
- **Hardware:** STM32F3xx, Cyclon 5, ALTERA DE2-70, Arduino, RPi, AVR-ATMEGA Family MCU's.

ACADEMIC PROJECTS:

- **Hardware implementation of FreeRTOS Concepts**
  Programmed RTOS concepts such as RoundRobin Policy, Task Creation, Deletion, Notification, Prioritization,Queue Processing, Binary/Counting Semaphores and Mutex
  Live At: https://github.com/milindprajapati/RTOS_Workspace
- **Firmware/Driver Development of STM32F3xx**
  Programmed and Published device driver and firmware for STM32F3xx which supports Peripheral connection to USART, SPI, I2C, GPIO's. **LIVE At:** https://github.com/milindprajapati/STM32DriverDevelopment
- **Text segmentation and recognition with VHDL on DE2-70**
  Engineered and orchestrated implementation of APNR on VHDL; with help of MATLAB characters are segmented and extracted characters are fed to DE2-70 in form of hex file. The DE2-70 Board will compare the saved OCR file to newly created OCR hex file and display it on LCD.
- **Home automation on centralize hub using Internet of Things-IoT**
  Designed project was developed on Raspberry Pi and Arduino to collectively implement different bus protocols, i.e, I2C, SPI etc. and save processing time by using concepts of parallel processing. Implementation of cluster of sensors for security, safety and faulty proof system by using encryption.
- ***Pixiee Dashboard – A Smart Notice Board for Universities***
  Displayed an excellent capability of data structures to store on college network and Process on Raspberry PI. A student can access their account from any notice board using fingerprint and transfer data by NFC.
- **Learning, Classifying and Predicting dataset of SNP genotype**
  Among 29623 SNPs based on 8000 cases and controls our task was to predict 2000 test. Project was implemented with gradient perceptron, k-means, logistic regression, pcc and naïve bayes. With accuracy of 81.25% the project was successfully implemented. Accuracy was checked by cross-validations.
- **Develop PageRank and HITS Algorithms**
  Based upon mathematical description and weighted voting system. Implemented both algorithm in C++.
- **Huffman (Greedy) Compression Algorithms**
  Based on Greedy Algorithm for text compression, implemented Huffman Compression in C++.
- **Cache Coherency Simulation**
  Designed simulator for cache coherency simulator in bus multiprocessor system with MSI, MESI, MOESI Protocol using C++.

RELEVANT EXPERIENCE:

1. **Lab Consultant**
   MTSS - New Jersey Institute of Technology,Newark, NJ *May, 2019*
   - Monitor the labs to ensure that no students perform any kind of violations.
   - Solve their Programming/Designing Queries in C/C++/Python/Matlab.
2. **Junior Electrical Engineer**
   Menza Motors Pvt Ltd, *Ahmedabad, IN* *May, 2017*
   https://menzamotors.com
   - Worked with a team of 20 with diversified major to develop a realistic system.
   - Presented weekly task report with findings on progress of system.
   - Designed and developed prototype for measuring sensor-based values of an automobile system and displaying values on a C# based graphical user interface.
   - Developed emulator on matlab for CAN peripherals communication and implemented on BCM2835 based processor using CAN transceiver.
   - **Tested Protocols:** CAN, SPI, I2C, USART
   - **Sensors:** DS1307, DS3231, AD22151, MPU9250, MCP 3008, SNDH-H3L-G01
   - **MCU**: BCM2835
3. **Desk Attendant**
   L. D. College of Engineering, *Ahmedabad, IN* *JAN, 2016*
   - Keeping track of students and visitors regarding the college library rules and regulations.

COMPETITION/LEADERSHIP & AFFILIATION:

- Chairperson (IEEE-LDCE SB)
- Participated in autonomous bot challenge competition
- Core team member in Organization of Orientation in L. D.C.E
- Recruiting Professional (IEEE-LDCE SB)

CERTIFICATIONS: (MOOC on Udemy)

1. Mastering Microcontroller with Embedded Driver Development
2. Mastering Microcontroller: TIMERS, PWM, CAN, RTC,LOW POWER
3. Mastering RTOS: Hands on FreeRTOS and STM32Fx with Debugging
4. CUDA programming Masterclass
5. Artificial Intelligence A-Z™: Learn How To Build An AI
6. Algorithms and Data Structures in Python
7. Machine Learning A-Z™: Hands-On Python & R In Data Science