Partha Das Purkaistha

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Resume Objective:

A technical minded ,recent graduate with master's in Electrical Engineering looking for an Entry Level Electrical Engineer position that will enable me to use my strong communication skills and educational background.

Education

Wayne State University, Detroit, MI **Graduated** April 2020
Major: MS in Electrical Engineering **GPA:** 3.83

UCSI University,Kualalumpur,Malaysia **Graduated** April 2011
Major: BS in Electrical & Electronics Engineering

Relevant Coursework

Modelling & Control of Power Electronics & Electric Vehicle Powertrains, Embedded Systems Design, Computer-Aided Logical Design and FPGAs,Cumputer Networks & Programming, Mixed Signal Circuit Design, Introduction to VLSI Systems ,Fuzzy Systems, Advance Energy Storage Systems for Electric Vehicle.

Technical & Computer Software Skills

MATLAB & Simulink, Embedded C/C, Python, Verilog, CAN BUS protocol, UART protocol, SPI,I2C,Pspice,Cadence virtuoso, Vivado Xilinx FPGA, MS Office.

Engineering Projects

Sensor Data Monitoring System Over CAN BUS Protocol Using Arduino:

Understand, designed & developed a functional model of embedded system using Arduino ,MCP2515 CAN module, sensors including DHT11,Ultrasonic sensor, Door magnetic sensor, potentiometer and I2C LCD display. In the first part, used embedded C to program Arduino to implement CAN bus network of two nodes(transmitter & Receiver).In second part, built hardware model of CAN bus network(2 nodes),tested sensor & CAN module connection to both nodes with code. Configured CAN Bus message identifiers and data format, data length on actual CAN Bus hardware.

Modelling and Simulation of Electric Vehicle Using MATLAB:

Built a **Simulink model** to analyze vehicle dynamics, power(regen and without regen),energy(battery sizing of an electric vehicle),SOC of battery. **Developed MATLAB programs** to calculate range, energy requirements for different driving cycles.

Using Socket Programming to Create Client – Server system:

A **Cloud Database** server has been created using low level socket programming. The project task was to establishing connection between two hosts on an internet network to communicate with each other. One socket listen on a port at an IP, on the other hand socket reaches out to the other to form a connection. **Server** forms the listener socket while **client** reaches to the server & implemented using **Python.**

UART Communication Between FPGA Board(Basys 3) and Computer Terminal:

An **UART communication** between the **fpga board(Basys 3)** and computer terminal has been established using UART transmitter and UART receiver through USB-UART connector on Basys 3.**A-byte**(8 bits) data/character(ASCII) has transmitted from FPGA board to computer terminal. **On the other hand**, 8 bits data send from computer terminal to FPGA board. **Both UART transmitter & receiver** is developed using **Verilog code** in the **Vivado** suite.

VLSI Implementation of 4-Bit Arithmetic Logic Unit(ALU):

A VLSI implementation of 4-bit ALU is done using **Cadence** in two parts. In the first part, **Verilog code** is created for ALU in both **Vivado & NC sim**.Then simulation & FPGA implementation has done to verify the functions. In the second part, **logic synthesis,floorplanning,placement & routing** is done using Cadence **Encounter RTL compiler**. Next pad frame generated for chip assembly & GDS file created to send MOSIS.

Battery Sizing for Off Grid Solar System for a Residential Flat:

Analyzed load demand of a Residential flat system and estimating daily household usage in watt-hour. Calculated battery bank capacity and array wattage based on the watt- hour requirements of the flat. Specified and calculated the inverter rating and number of solar panels required for the off grid solar system. Developed a DC-DC boost (MPPT) Controller for the off-grid system.

Academic Paper Presentation: (Wayne State University)
Course: Mixed Signal Circuit Design(2020)
Presentation Title: "High Resolution A/D Conversion in MOS/LSI"

Certifications:
- Controller Area Network-In depth analysis of CAN BUS/Protocol-Udemy.
- VLSI - Physical Design Flow-Udemy.

Other Professional Experience

Customer Service Associate at Walgreens, Warren, MI: **Aug 2020 – Present**
Cash Management and respond promptly and professionally to incoming customer inquiries in person, by telephone, or by email, Inventory managing.

Cashier at Jomir Grocery, Hamtramck, MI: **Mar 2018 – Aug 2020**
Receiving payment from customers by cash and credit cards and issue receipts, refunds, credits to customers and answered customers' questions, and provided information on procedures.

Senior Officer at Pubali Bank Limited,Dhaka,Bangladesh: **Feb 2013 - Sep 2017**
Meet with clients to obtain information for loan application &answer queries about process and types loan options. Analyze clients financial status, credit, and property evaluations to determine feasibility of granting loans. Create &compile loan proposal, application, financial statement analysis report. Helping payment schedules & loan recovery.