**DARSHIL R. TRIVEDI**

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**EDUCATION:**

**Master of Science in Electrical Engineering**  Aug’19-Feb’21

University at Buffalo, The State University of New York-Buffalo  **3.85/4.00**

**Bachelor of Engineering, Electronics Engineering**  Aug’15-May’19

The Maharaja Sayajirao University of Baroda, India  **3.58/4.00**

**SKILLS & TOOLS:**

**Languages:** Python, C, C++, Assembly Language, Embedded C, VHDL, Verilog, System Verilog, SQL.

**Tools:** Cadence Virtuoso, Matlab, LABview, EAGLE PCB, KiCad, Vivado, Altera Quartus, ModelSim, Android Studio.

**Technical Skills:** Neural Networks, Reinforcement LearningLinear Algebra, Linear & Logistic Regression, Fuzzy Logic.

**Certifications:** Python for Everybody Specialization, TensorFlow in Practice Specialization by deeplearning.ai,

SQL for Data Science, Visualization with Tableau**.**

**PROFESSIONAL EXPERIENCE:**

**Engineering Intern, Siemens India Pvt. Ltd.** May’18- July’18

* Acquired basic knowledge of PLC and performed ladder logic simulations on siemens simatic to optimize the process.
* Researched and tested 7 different type of sensors & gauges and did competitive analysis of sensor working.

**Analog/Mixed Signal VLSI Group| University at Buffalo** Jan’20-May’20

* Researched andCoined an output capacitor-less low dropout voltage regulator in 65-nm CMOS Technology.
* Designed a Reference Voltage for LDO which was a Subthreshold Voltage Reference with scalable output voltage.
* Developed MOSFET-level schematics and layouts to perform different analysis using Cadence Virtuoso.
* Enhancement in Load & Line regulation, Temperature Compensation and cost reduction was obtained compared to previous result.
* Chip area was reduced to 1/3rd of existing technology, resulting in LDO for SoC usage.
* LDO achieves Line regulation of 5.43 mV/V and 0.2mV/mA of Load regulation with dropout Voltage of 200mV.

**ENGINEERING PROJECTS:**

**Big Data Analytics and Image Recognition | University at Buffalo** Jan’19-May’19

* Implemented Perceptron, SVM, Linear & Logistic Regression, k-NN, Random Forest and K-means from scratch on MNIST and Fashion MNIST datasets and applied 10-fold cross validation to get a maximum accuracy.
* Employed a CNN based model for Image Recognition using AlexNet architecture. Strategic initiatives were taken in existing CNN to get a better accuracy. Top-5 accuracy of around 68% was obtained for oxflower17 dataset.
* Predicted data set using reinforcement Learning, Q & double-Q, transfer learning and convolution neural networks.

**FPGA Calculator | University at Buffalo** Jan’20-May’20

* Built a FPGA Calculator with help of Basys3 board. VHDL as Language in Vivado tool was exercised for this project.
* Execution of simple arithmetic operations and logic left shift between 2 decimal operands was achieved using calculator and results were displayed on 7-segment display.
* Different push buttons on basys3 were used to store operands and select operations to be performed.

**Volumetric Display using LASER | The Maharaja Sayajirao University** July’18-March’19

* Generated a virtual 3-D volumetric display from it’s 2-D version on a smoke screen utilizing LASER technology.
* Created LASER galvanometer scanner and closed loop Servo amplifier that reflects the LASER beam to form continuous image on smoke screen.
* Fabricated Servo amplifier on PCB deploying op-amps and coupled it to PD Controller circuit with capacitive feedback.
* Depth of 2D image on smoke screen was controlled using LASER Intensity control circuit.

**Arduino and 8051 Micro-Controller | The Maharaja Sayajirao University** Aug’15-Mar’18

* Constructed a RC- Car using Bluetooth module HC-05 and Arduino that can be operated with smart phone or laptop.
* Interfaced 2 stepper motors in X and Y direction employing 8051 microcontroller to draw different geometric shape.

**Real Time Sensor Data Collection App | University at Buffalo** Aug’19-Oct’19

* Formulated & presented an Android Application to collect real time sensor data and verify data.

**LEADERSHIP EXPERIENCE:**

**Paramarsh-Ideas Infinite** (A National Level Non-Technical Event of MSU-FTE)

* Spearheaded event with a footfall of 20000 and website hits of 50000 in a year.
* Led a team of 100 through partnership, sponsorship and event management domains.
* Shepherd Anti-Tobacco campaign in partnership with 'Faith Foundation' in University campus, under the banner of “Sanidhya-Awareness for Society” in order to spread awareness about the ill-effects of tobacco consumption.

**WORK AUTHORIZATION:**

* (Visa) Eligible to work in U.S for Full-Time without sponsorship on OPT for 36 months.