DARSHIL R. TRIVEDI

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EDUCATION:

Master of Science in Electrical Engineering — **Feb 2021**
University at Buffalo, The State University of New York-Buffalo — **GPA - 3.85/4.00**
Bachelor of Engineering, Electronics Engineering — **May 2019**
The Maharaja Sayajirao University of Baroda, India — **GPA – 3.58/4.00**

SKILLS & TOOLS:

Languages: Python, C, C++, Assembly Language, Embedded C, VHDL, Verilog, System Verilog, SQL.
Tools: Cadence, Matlab, LABview, Eagle PCB designing, KiCad EDA, Vivado by Xilinx, Android Studio.
Technical Skills: Neural Networks, Reinforcement Learning Linear Algebra, Linear & Logistic Regression, Fuzzy Logic.
Certifications: Python for Everybody Specialization, TensorFlow in Practice Specialization by deeplearning.ai, SQL for Data Science

PROFESSIONAL EXPERIENCE:

Engineering Intern, Siemens India Pvt. Ltd. — May'18- July'18

- Acquired basic knowledge of PLC performed ladder logic simulations on siemens simatic to optimize the process.
- Researched and tested all the different type of temperature sensors & pressure gauges and their working.

Analog/Mixed Signal VLSI Group| University at Buffalo — Jan'20-May'20

- Researched and designed an output capacitor-less low dropout voltage regulator in 90-nm CMOS Technology.
- Designed a Reference Voltage for LDO which was a Subthreshold Voltage Reference with scalable output voltage.
- Developed RTL-level logic and MOSFET-level layout to perform different analysis using Cadence Virtuoso.
- Enhancement in Load & Line regulation, Temperature Compensation and lower Chip area was obtained compared to previous result, resulting in LDO for SoC usage.

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 the AlexNet architecture. Many tweaks were made in the existing CNN to get a better accuracy. Top-5 accuracy of around 68% was obtained for oxflower17 dataset.
- Reinforcement Learning, Q & double-Q learning, Transfer Learning and Convolution Neural Networks were the Machine Learning models being employed.

FPGA Calculator | University at Buffalo — Jan'20-May'20

- Built a FPGA Calculator using Basys3 board. VHDL as Language in Vivado tool was used for the project.
- Execution of simple Arithmetic operations as well as logic left shift between 2 decimal operands entered using slider switches was achieved by calculator and the 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 | M.S. University — July'18-March'19

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

Arduino and 8051 Micro-Controller | M.S. University — 2015-2018

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

Real Time Sensor Data Collection App | University at Buffalo — Aug'19-Oct'19

- Designed an Android Application to collect real time sensor data and test & verify the data.

LEADERSHIP EXPERIENCE:

- **Paramarsh-Ideas Infinite** (A National Level Non-Technical Event of MSU-FTE)
- Spearheaded the event which had a footfall of 20000 and website hits of 50000 in a year.
- Successfully led the teams in partnership, sponsorship and event management domains.

WORK AUTHORIZATION:

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