**DARSHIL R. TRIVEDI**

**Mobile #:** +1-(716)563-3214 | **Email:** [darshiltrivedi04@gmail.com](mailto:darshiltrivedi04@gmail.com) |**LinkedIn:** [www.linkedin.com/in/darshil-trivedi-2396b718a](http://www.linkedin.com/in/darshil-trivedi-2396b718a) |**Research team Website:** <http://ubmixedsignals.eng.buffalo.edu/index.php/members/> | **Portfolio:** <https://darshiltrivedi.github.io/>

**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 LearningLinear 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 anddesigned 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.*