**ACCOMPLISHMENTS:**

* Published a paper in International Journal of Advance Research in Computer and Communication Engineering on “Home Automation using ZigBee Protocol”.
* Awarded 1st & 2nd prize in two national level Technical paper presentation on “Terahertz Technology”.
* Project manager awarded “On the Spot” and “Star of the Quarter” for outstanding performance during my tenure in Tata Consultancy Services.

**EDUCATION:**

**Master of Science in Electrical Engineering** Expected May’19

State University of New York at Buffalo GPA - 3.67

**Bachelor of Engineering, Electronics and Telecommunication**

Rajarambapu Institute of Technology, Sangli, India Percentage: 70%

**WORK EXPERIENCE:**

**Mahle Behr USA Inc.,** Lockport, NY. (Engineering Intern) May’18 – Present

* Design and develop test harness, test scripts and test cases for HVAC airflow model in MIL and SIL environment.
* Write software level Simulink model requirement. Developed scripts to analyze the data post HIL testing.

**Technologies: Matlab / Simulink / Stateflow, Embedded Coder, Simulink Coder**

**Magna Steyr India Pvt. Ltd.**, Pune, India. (Associate Engineer) Jan’17 – Jul’17

* Optimized the testing tools, to make it compatible with different version of programs. Got rid of tool version dependency.
* Successfully created .dll from Simulink models using tool like RTW & Target Link with custom requirements to increase the testing process efficiency by 40%.
* Experience working on Transfer case control modules. Developed, analyzed and verified the transfer case algorithms (MBD), followed AUTOSAR guidelines during implementation.

**Technologies: Matlab / Simulink / Stateflow, Python, C, PTC MKS Integrity (Version Control)**

**Tata Consultancy Services**, Pune, India. (System Engineer) Mar’14 – Dec’16

* ***Ford Climate Control Module (Jun’2014-Dec’2016)***
* Successfully created executable from Simulink models from scratch using RTW, automated the verification and validation cycle of FORD CLIMATE HMI (SYNC 2/ SYNC 3) to reduce integration testing cycle time to 17% and saved $3000/person per year.
* Designed, developed and verified the HVAC algorithms using MATLAB, SIMULINK and STATEFLOW in MIL & SIL environment..
* Wrote supporting tools using m scripts, cmex, C, VBA and HTA to automate redundant task in agile process.

**Technologies: Matlab / Simulink / Stateflow, C, C++, Qt, QML, CAN, SVN/SharePoint (Version Control)**

**ACADEMIC PROJECTS:**

**Image Based Search Engine** (Python, NumPy, OpenCV) July’18

* Developed simple image search engine using image color histogram and chi squared distance as similarity measure to give matches

**Image disparity estimation and Image Segmentation** (Python, NumPy, OpenCV) June’18

* Disparity maps from rectified images using basic block matching and dynamic programming. Implemented view synthesis using depth maps.
* Performed image segmentation using mean shift algorithm.

**Edge Detection and Histogram Equalization** (Python, NumPy) May’18

* Edge detection (Horizontal & Vertical) using Sobel filter and compared execution time between 2D and 1D convolution. Implemented generic algorithm for histogram equalization.

**Neural Network Classification** (Python, NumPy, Tensorflow)Mar’18- Apr’18

* Trained CNN on CelebA and MNIST dataset using tensor flow & achieved test accuracy of 79.3%. Designed single layer NN with forward and back propagation to compare results with deep NN.

**Linear Classifiers** (Python, NumPy)Feb’18

* Implement and trained LDA, QDA and Ridge regression classifiers on diabetes dataset with 64 features and compare accuracy among classifiers using MSE.

**Musical Instrument Recognition Using Harmonics** (MATLAB)Oct’17 – Dec’17

* Using Cepstral analysis implemented algorithm to characterize the individual note of different instruments.
* Studied the characteristics of flute and piano in reverse frequency domain, even able to identify particular note.

**Real time Object and Color detection using MATLAB and Webcam** (MATLAB)Aug’12 – Nov’12

* Implemented a system, which could detect a shape of object like cone, square, circle along with their colors and separate them according to the category of the object in real time using MATLAB.

**TECHNICAL SKILLS:**

**Software Tools:** Matlab / Simulink / Stateflow, SIMULINK CODER (RTW), TargetLink, PyCharm, Jupyter Notebook, CodeBlocks, Qt.

**Programming Languages:** C, Embedded C, Python 3(OpenCV), VBA, VBScript, C++, JavaScript, Shell Script and QML.