Pratik Patil

linkedin.com/in/patilpratikv | github.com/patilpratikv

(716) 598-9086 ppatil2@buffalo.edu

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.