Mayur Nilkanth Talole

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Objective:

Seeking a challenging, dynamic research position in the field of Software Development and Computer Engineering.

Education:

Master of Science (M.S.) in Computer Engineering May'17
The University of Texas at Dallas, Texas, USA - GPA: **3.668 / 4**

B. Tech. Electronics Engineering with Honors in Signal Processing and Communication Engineering, June'15
VIT (Savitribai Phule Pune University), Pune, India - CGPA: **8.64 / 10**

Work Experience:

Project Trainee at Tata Motors Ltd., India Summer'14

- Modelled and developed Exhaust Gas Recirculation control strategies for Bharat Stage III pollution platform.
- Implemented Learning Strategies on Embedded Platform for decision making on EGR valve in Electronic Control Units of vehicles, implemented in Simulink and demonstrated test rig of ECU of respective vehicle.

Research work/ Publications:

- Chief engineer and developer in controls for **UTD Hyperloop Team** for Pod Design Competition by **SpaceX**.
- Worked for **MIT India Smart Toilet Initiative** presented in **ReDx 2015** camp by IIT Bombay and Massachusetts Institute of Technology, USA and developed a robot for sampling and advance disease detection from faeces.
- "**Safety using Road Automated Wireless Communicating Smart Helmet Application (SURACSHA)** ", International Journal of Engineering Research & Technology (IJERT), Vol. 3 - Issue 9 (September 2014).

Proficiency and Skills:

Programming : C, Java, HTML5, CSS3, Python, Javascript, MATLAB, MySQL, VHDL, Embedded C, Gem5, Assembly, Ladder (PLC systems), AVR-GCC.

Tools : L^AT_EX, MS office, Eclipse IDE, GitHub, Netbeans, Adobe Photoshop, AVR Studio, MPLAB IDE, IRSIM, Keil uVision, Amazon AWS, Lab view, Simulink, Code composer, Android Studio, Visual Studio.

Operating Systems : MS Windows, Linux (Ubuntu).

Projects undertaken and extra-curricular activities:

Experimental analysis of Mutual Exclusion algorithms in a distributed system. Summer'16
Implemented and compared mutual exclusion algorithms – Lamport and Roucairol-Carvalho algorithms in system containing multiple virtual machines using Java. Compared respective results in message complexity, response time and system throughput.

Snapshot Protocol Implementation in Distributed System Summer'16
Implemented Chandy and Lamport's Protocol for recording a consistent global snapshot of system of multiple machines given in configuration file. The snapshot protocol is used to detect termination of MAP protocol of distributed systems in JAVA.

Cache Organization and performance of Branch Predictors, different configurations. Spring'16
Simulated multiple cache design parameters on X86 Architecture using Gem5 to fine-tune cache design. Later compared performance of various configurations and selection of branch predictors on CPI value, number of misses in cache simulated on SimpleScalar.

IoT based Solar tracking panel mechanism and personal assistant system Fall'15
Designed algorithm for controlling orientation of panel as per the position of sun consists of TIVA ARM Cortex along with and CC3100 Wi-Fi module to get weather data and data processing generates user notification. Web based local troubleshooter for manual control was created. Multiple features such as network report generation, emergency assistance were incorporated later.

Universal tracking app for public transportation with Multi-function Multi-platform Secure Chat application Spring'16
Developing an Android app and java based application along with Amazon AWS for tracking all public transportation. DynamoDB is used for storing the current GPS based location of user and based on the network of all buses real time suggestions will be given. With this also developed a chat application which employs multi-clients communication system on Java and hosted on Amazon AWS.

LetpicEnhance Learning to estimate transient parameters in computational digital photography for image enhancement.
Developed a system to determine camera parameters to capture a perfect image of fast moving object using learning techniques in MATLAB and in the thesis proposed the concept of camera behavioral entity.

Worked as **Team Lead** and programmer for **Team VIT Robocon** secured first Runners Up position in ROBOCON India'13.

Related Coursework:

Design and analysis of algorithms, Computer Architecture, Advanced Operating Systems concepts, Pattern Recognition, Data structures, Advanced Computer Networks, Embedded systems, Microprocessor Systems.