

# Rashmi Ravichandran

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## EDUCATION

### University of Maryland

*M.Eng in Systems Engineering & Graduate Certificate in Computer Engineering*

- Systems Architecture, Requirements, and Analysis
- Computer System and Microprocessor Based Design and Architecture

*College Park, USA  
(Anticipated 2018)*

*Vellore, India  
2012-2016*

### VIT University

*B.Tech in Electronics and Communication Engineering*

- Top 10% of class of 570 in Embedded System Design & Advanced Microcontrollers
- Signal Processing, Networking, Wireless and Computer Communication, Engineering Drawing

## WORK EXPERIENCE

### Business Development Associate – Intern, Nextline Business Impex Pvt. Ltd (SysML, Scrum, MS Office)

- Currently aiding in developing a wireframe for an Educational Social Media venture
- Performed system modelling and risk analysis on beta version of venture
- Surveyed and Researched market needs and accordingly defined product features
- Planned Marketing Initiatives and Developed Cost Estimates

*Indore, India  
January 2016 – Present*

### Summer Intern, Zebra Technologies (Linux, TI OMAP4430)

- Identified and fixed bugs on product MC18 device docking
- Identified issues relating to Barcode Scanner Functionality of MC18 Device
- Individually devised Cyclic Redundancy Check and Checksum Code for u-boot of MC18 Device

*Bangalore, India  
June 2015 – July 2015*

## LEADERSHIP EXPERIENCE

### Co-Founder and M.D. , Mozilla Firefox VIT Club, VIT University

- Visionary behind club functionality and created 5 year road map and manual of club procedures, policies and protocols. Conceptualized technical workshops and hackathons
- Responsible for directing an Executive Board of ten inducting the smartest minds on campus and creating an exclusive student club of 150 people working on live Mozilla International Projects

*July 2015-May 2016*

### Toastmasters International VIT Chapter

*VP-Membership(1/1/2014 - 1/4/2014)*

- Elected to the Executive Committee for the second time by popular choice by a club of 60 people
- Increased membership by organizing membership drive attended by over 1000 students
- Recognized by VIT University for exemplary work done
- Awarded “Competent Communicator” & “Advanced Leadership Bronze” certificates by Toastmasters International

*VP-Public Relations (1/7/2013 – 3/12/2013)*

- Responsible for designing posters and promotion of Toastmasters International VIT Chapter
- Award “Competent Leader” award by Toastmasters International

### Purchase and Souvenir Team Lead, India Emerge Youth Summit

- Handled identification of cost effective suppliers and purchase of souvenirs for an ISO 9001 certified event
- Awarded “Leadership Excellence” award by Toastmasters International & appreciation by VIT University

*July 2013- Oct 2013*

## PROJECTS

**NASA Task Order Management System: A Six Sigma Quality Control Analysis (MS Office Suite, Python)**

- Gathered over 50,000 real time data points on the NASA TOMs systems between 2012 to 2016 and studied data for outliers and special causes of variation
- Documented factors and performed a Sensitivity Study to identify the major bottlenecks in the failure of TOMs

#### **Squadify: A Cost Estimate (MS Office Suite)**

- Developed a Work Breakdown Structure and Identified major cost drivers for establishing and running an Educational Social Media Startup in India
- Realized interdependent engineering activities and performed a k study of their effect on the project time to completion

#### **Pipeline Pigging System(SysML)**

- Developed System level, Content Level and Element Level Diagrams to define System Behavior, Interfaces and Integration
- Documented Stakeholder Requirements, Life Cycle Models, and Measures of System Complexity

#### **Traffic Management System: An Analytical Analysis through Queuing Models (MATLAB, Simulink)**

- Identified a potential traffic management problem in Bangalore, India plagued by potholes, location of business park and number of lanes present for commuting
- Derived formulae to model pothole density, business park entry and exit conditions and number of lanes and implemented the model as an M/D/1 Queue
- Performed a Sensitivity Analysis and depicted the level of impact on a Tornado Diagram

#### **Cooling System (NI LabVIEW, LINX, Arduino UNO)**

- Programmed a TMP36 Sensor to detect external temperature and measure whether its lies within acceptable limits and accordingly activate a cooling fan
- Developed an interface for the system on LabVIEW which logged temperature in real time and displayed its levels on an RGB LED

#### **UMD Loop (SysML, NI LabVIEW)**

- Developed Context Level, System Level, and Element level diagrams for 'Prometheus' to perform requirements check and risk analysis – for the SpaceX Hyperloop Competition
- Aided the electronics team in providing functionality to the pod pistons

#### **Outage Probability and SER Calculation in Joint Relay and Antenna Selection for Full-Duplex AF Relay Networks (MATLAB)**

- Implemented a joint antenna and relay selection process and a predecessor model to compare its performance and achieve improved space time diversity
- Wrote self-devised code comparing Transmission Rates in an Antenna Selection Relay System VS Optimal Relay Systems

#### **WiMAX Protocol Simulation Using MATLAB and its Application In The Transport Sector (MATLAB, Qualnet, Riverbed Modeller)**

- Implemented WiMAX Protocol and developed code to reduce response time in an event of an accident on India's National Highways
- Developed supporting road and wireless network to enable WiMAX environment in moving vehicles and documented a 15 min decrease in response time

### **SKILLS AND CERTIFICATIONS**

- **Programming Languages:** C, C++, Python, Assembly, Verilog
- **Software Tools:** Cameo Systems Modeler, LabVIEW, MATLAB, Simulink, Qualnet, Riverbed Modeller, CC Studio, Altera, NI Multisim, Keil µVision, MASM, AutoCAD
- **Certifications & Skills:** Advanced Leadership Bronze, High Performance Leadership, Competent Communicator by Toastmasters International, Six Sigma