**ABOUT ME**

I am a computer engineering postgraduate with 5+ years of experience designing and architecting software systems and automotive safety systems. I am very passionate about cars and IoT. My ideal new role would allow me to work closely with next-gen automotive systems and/or connected smart devices.

**PROFESSIONAL EXPERIENCE**

**Systems Engineer** January 2020 – Present

Qualcomm, San Diego, CA

My role as part of the Automotive Safety Systems team is to understand functional safety expectations of an SoC (System on Chip) and co-ordinate with various IP teams that make up the SoC, to achieve the intended functionality and functional safety of the automotive system as per ISO 26262 (International Automotive Functional Safety Standards).

My responsibilities include, but are not limited to:

* Understanding the automotive use-case for a system and the individual IP components.
* Documenting technical requirements at the system and IP levels.
  + Requirements are written and managed through the JAMA tool.
* Authoring technical concept documents for the system.
* Authoring system architecture specification documents.
* Preparing flow charts, diagrams, and presentations to visually represent an SoC and/or IP. Such documents are used for:
  + effective customer engagement
  + coordinating with various IP teams to explain each IP’s individual functionality and role, interactions with other IPs and the SoC itself, to achieve the end goal.
* Performing various safety analyses such as FMEDA, DFA and DFMEA for both SoC (System on Chip) and individual IP components.
  + This is done to ensure that every IP that constitute the SoC and the SoC itself, adhere to the ISO26262 automotive safety standards.
* Documenting and tracking IP and system level changes through the JIRA tool.
* Establishing traceability from functional to technical requirements, hard-ware requirements and then to the corresponding verification and validation test cases.
  + Use various internal tools to achieve this.
  + Develop python scripts to automate and speed up the traceability process.
* Ensuring all safety lifecycle processes and development adhere to the project road map.

**Safety System Engineering Intern** May 2019 – Aug 2019

Qualcomm, San Diego, CA

* Played a crucial role in implementing the tool qualification process for tools and products per ISO26262 - the international standard for functional safety of electrical/electronic systems.
* Performed gap analysis between the international standard and existing functional safety compliance in Qualcomm tools and provided a methodology to bridge it.

**Graduate Research Assistant** Oct 2018 – May 2019

ECE department, University of Florida, FL

* Designed and implemented an ML-based detection and mitigation system to introduce robustness in the Co-operative Adaptive Cruise Control system.
  + Developed a proof of concept by simulating the CACC system and hacking scenarios.

**Software Designer** July 2016 – July 2018

Alstom Transport, Bangalore, India

My responsibilities included:

* Collaborating with designers to develop an embedded systems software to perform periodic maintenance of on-board computer systems in ERTMS (European Rail Traffic Management System) trains, at Alstom Belgium.
* Enabling the customer engineering team to install, initiate and maintain the Maintenance Support System for metro and main-line rail transportation.
* Understanding the use-case for a system/software and its subsystems.
* Documenting system and software requirements and architectural descriptions.
* Authoring System Requirement Specification (SyRS), System Architecture Description (SyAD) and Software Requirement Specification and Architecture Description (SwRSAD) documentations.
* Preparing flow charts, diagrams, and presentations to visually represent system and software enhancements and bug fixing. Such documents are used for:
  + effective customer engagement
  + coordinating with various internal teams to explain each functionality, interactions with other systems/software to achieve the intended functional deliverable.
* Documenting and tracking change requests (CR) through the ClearCase and ClearQuest tool.
* Establishing traceability from System requirements to Software requirements, module test cases and then to the corresponding verification and validation test cases.
  + Use various internal tools to achieve this.
  + Owned the traceability establishment for various projects using Reqtify tool.
* Ensuring all software development lifecycle processes and development adhere to the project road map.

**Train Control Validation Intern**  May 2015 – July 2015

Alstom Transport, Bangalore, India

* Designed and developed a simulation of Low Voltage Control Logics, implementing the train control system design.
* Designed and developed an entire validation platform that simulates the train operator’s console for the Indian metro railway system in a span of 2 months, accelerating the project road map by 6 months.

**SKILLS**

Programming Languages: JAVA | Python | C/C++ | HTML | XML | Elixir

Databases: PostgreSQL | MySQL

Frameworks: Spring | Phoenix | Android SDK

**EDUCATION**

**Master of Science, Electrical and Computer Engineering** Dec 2019

University of Florida, Gainesville, FL

**Bachelor of Technology, Electrical and Electronics Engineering** May 2016

National Institute of Technology, Trichy (NIT Trichy), India

**LEADERSHIP EXPERIENCE**

**Cofounder and Lead Volunteer – HumaNITTy, Trichy, India** Sep. 2014 – July 2018

Lead a national award-winning philanthropy group during various volunteering events.