

**Dhanunjaya S** 

Software Developer, Seeking roles in IT Project Management, Software Development, Requirement Gathering, Application Development, Requirement Analysis, Network Engineering, Embedded Development, Mobile Communication, Python, Secure Bootloader, AUTOSAR, CANalyzer

Current Designation: Software Developer

Total Experience: 1 Year(s) 10 Month(s)

Current Company: KPIT Technologies

Notice Period: 15 Days or less

Current Location: Bengaluru / Bangalore

Highest Degree: M.Tech [Network Engineering]

Pref. Location: Bengaluru / Bangalore

Functional Area: IT Software - Application Programming / Maintenance

Role: Software Developer

Industry: IT-Software/Software Services

Marital Status: Single/unmarried

Key Skills: Software Developer, IT Project Management, Software Development, Requirement Gathering, Application Development, Requirement Analysis, Network Engineering, Embedded Development, Mobile Communication, Python, Secure Bootloader, AUTOSAR, CANalyzer, Embedded C, C, C++

Verified : Phone Number | Email - id

Last Active: 14-Nov-20

Last Modified: 20-Jun-20

## Summary

1 year 10 Months experience in KPIT Technologies Ltd.  
 Experience in Python scripting and Qt-Creator.  
 Experience on Gateway bootloader, Secure Bootloader, AUTOSAR, Gateway diagnostics-ISO 14229.  
 Experience in performing Security assessment of the ECU's, Embedded ECU code analysis, V2X ...communication using MQTT protocol.  
 Proficient in Basic Java and Android.  
 Good understanding of Data structures.  
 Proficient in Embedded C/C++ development.  
 Proficient in Object-oriented programming principles.  
 Proficient in Computer Networking and Security Concepts.  
 Proficient in wireless communication Wi-Fi, RF, GPS, GPRS and Bluetooth.  
 Proficient in Mobile communication concepts.  
 Experience on Vehicle spy, CANalyzer, PEAK-CAN tools.  
 Experience on performing Static code analysis on the code.  
 Experience in performing Pentesting.  
 Proficient on working with Tortoise SVN version control software and IBM DOORS.  
 Good analytical and problem-solving skills coupled with good communication and presentation skills

## Work Experience

**KPIT Technologies** as Software Developer  
 Jun 2016 to Till Date

Software Developer, 05/2017 to until today, KPIT Technologies., Bangalore  
 Working as a Security Developer for ?jaguar and land rover? Gateway ECU.  
 Working on 20 MY security analysis of the JLR Gateway ECU and development of secure design solution on the existing Gateway architecture and software stack.  
 Successfully Hacked into the programming session of the production Gateway ECU via OBDII/UDS interface by cracking seed key challenge-response authentication algorithm which added business benefit to KPIT.  
 Developed Automation scripts using python for building High assurance software tool.  
 Extended the PKI implementation to secure bootloader for uploading signed Application/

Calibration data via Ethernet.  
Tool handling experience on Klocwork Server Static code analysis tool.  
Developed more secure Tester Authentication Mechanism using CMAC algo. Via CAN bus.  
Developed Pentesting tool using python scripts with GUI to hack any standard Car ECU's.  
Working on the design and development of Secure Bootloader for Gateway ECU.  
Worked on the implementation of V2X communication using MQTT platform using Azure cloud IOT Hub service.  
Implemented TLS/SSL over V2X communication for having secure communication. The implementation included using Digital Certs to perform two-way authentication between the MQTT clients and Mosquitto server and establish a secure communication using ECDH shared secret key.

Education

UG: **B.Tech/B.E. (Electronics and communication)** from **Sri Jayachamarajendra College of Engineering, Mysore** in **2015**

PG: **M.Tech (Network Engineering)** from **MIT, Manipal University** in **2017**

IT Skills

Skill Name	Version	Last Used	Experience
Python		2017	3 Year(s) 6 Month(s)
Embedded C		2017	3 Year(s)
JAVA		2015	2 Year(s)
C/C++		2017	5 Year(s)
CAPL		2017	1 Year(s)
QT		2017	2 Year(s)
Linux,Windows,Raspbian python IDLE			
Eclipse, Android Studio			
Linux.Azure Cloud,Metasploit,Aircrack-ng			
Nmap, Nessus			
Vehicle Spy3, CANalyzer			
Atmega 16.			
Raspberry Pi, Arduino, MSP 430			
Qt-Creator.			
Gateway bootloader, Secure Bootloader			
CANalyzer, PEAK-CAN tools			
Tortoise SVN,IBM DOORS			
Embedded C/C++			

Languages Known

Language	Proficiency	Read	Write	Speak
English	Proficient			
Kannada	Proficient			
Hindi	Proficient			

## Projects

Project Title: Gateway ECU Security Design and Development

Client: Jaguar Land Rover

Nature of Employment: Full Time

Duration: Jun 2016 - Dec 2017

Project Location: Bangalore

Onsite / Offsite: Offsite

Role: Domain Expert

Team Size: 13

Skill Used: Threat Modeling, Vulnerability Assessment, Risk Assessment, Pentesting, Mitigations, Information Security, Nessus, Embedded, ECU diagnostics(iso 14229), Boatloader, AUTOSAR, CAN, LIN, FlexRay, Ethernet, Klocwork Server, Cryptography, Digital Certificates, PKI, MAC algorithms, HASH algorithms, TLS/SSL, OpenSSL, Python, CAPL, C++, QT, CANalyzer, PEAK-CAN, Vehicle Spy, Linux, MQTT (V2X).

Role Description: Secure Gateway ECU Bootloader and Secure Flashing analysis, design and development, Pen testing the ECU, Security Analysis, TARA and VA, Crypto algorithms.

Project Details: Gateway ECU software development for making it security attack proof.

## Affirmative Action

Physically Challenged: No

## Work Authorization

Job Type: Permanent

Employment Status: Full time