CURRICULUM VITAE

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OBJECTIVE

A Challenging position, which keeps me abreast with new technology, allows me to show my capability to full strength, so that the growth of the company and me should be eminent.

WORK EXPERIENCE

Staff Embedded Software Developer **01.02.2016 –**

Infineon Technologies AG, Augsburg.

- High quality **Java Card Operating System developer** on Infineon microcontrollers in a scrum team.
- Implemented Java Card OS features based on the latest Oracle Java Card specifications.
- Established code review standards in the team.
- Written unit tests, fixed bugs.
- Built **threat modeling** against various attacks on card Java Card OS and designed secure coding patterns.
- Implemented **counter measures** against fault attacks, logical attacks.
- Built MPU architecture, configured memory layout for the OS and automated MPU configuration code generation.
- Developed **I2C low-level driver** for smart card contact-based interface.
- Developed JC API interfaces for the fingerprint enrollment and detection on the card.
- Built various software tools to facilitate daily software CI process.
- Developed various **java card applets**.
- Trained and experienced on **ARM** architecture.
- Procured good knowledge on Cryptography concepts, Secure messaging schemes, and Authentication schemes.
- Worked on payment and electronic ID projects.
- Being Configuration Manager wrote a CM plan for the team for many projects.
- Provided trainings on various java card concepts to java card developers community.
- Knowledge on standards: **ISO 7816, ISO 14443**
- Knowledge on Specifications: **Oracle JCVM, JCRE, JC API, EMV, Global Platform specifications**

Embedded Developer **01.11.2015 – 31-01-2016**

COBI-Connected Biking for everyone, Frankfurt.

- Developed **PWM low-level driver** for driving RGB channels of LED light of the bike.
- Bug fixing, test case implementation.
- Procured knowledge in **CAN bus e-bike driver** development.

Master Thesis **01.04.2015 – 30.09.2015**

KUKA Roboter GmbH, **R&D Technology Development, Augsburg.**

Research Topic: A framework for non-expert robot programming facilitated by a self-localizing smart device.

Objective: A smart device (Project Tango Smartphone) equipped with high-end sensing capabilities facilitates the programming of industrial robots in the field of logistic tasks such as pick-and-place and packaging.

- Created requirement analysis, compared, and used computer vision state-of-the-art algorithms and APIs.
- Developed an android app to publish on touch 2D pixel coordinates.
- Developed algorithms and implemented in **C++ on ROS platform** to locate objects.

Internship **01.09.2014 – 28.02.2015**

KUKA Roboter GmbH, **R&D Technology Development, Augsburg.**

Research Project: Developing pick-and-place robotic applications using Project Tango Smartphone on ROS (Robot Operating System) platform.

- Developed an **android app** from scratch to parse super frames for depth & RGB images and publish live images into ROS network over (Wi-Fi).
- Realized 2D to 3D transformation algorithm.

Application Engineer **05.07.2010 –19.08.2013**

Microchip Technology Private Ltd (INDIA), **Bangalore.**

- Developed peripheral validation libraries for **PIC microcontrollers** in C.
- Developed magnetic stripe reader embedded software & hardware application.
- Reviewed and responded to internal and external customer inquiries.
- Responsible for providing embedded solutions to customers and promoting to use of microchip's PIC microcontrollers and other products.

EDUCATION

Hochschule Darmstadt, Germany **Sep 2013 – Feb 2016**	Masters in Electrical Engineering System Design (C++ & UML), Technical Project Management, Design and Test of Microelectronic Systems (FPGA & ARM), Complex Digital Architectures, Advanced Feedback Control (Matlab & Simulink), Advanced Automation (Matlab & PLC), and Advanced Robotics.
The National Institute Of Engineering, Mysore **Sep 2006 – June 2010**	Bachelor of Engineering in Electronics and Communications Engineering (First Class with Distinction). Basic and advanced Mathematics, Object Oriented Programming using C++, Data structure using C++, Image processing, Electronic Circuits and Design, Signals & System, Digital Signal Processing, Analog and Digital Communication, Microcontrollers, Microprocessors.

SKILLS

General: Good understanding on - concepts in microelectronics, embedded systems, mathematics, object oriented programming, java card, microcontrollers and robotics.
Programming Languages: C, C++, Python, C#, Java and Assembly.
Microcontrollers & Processors: ARM Cortex, PIC microcontrollers.
Microcontroller fundamentals: Cache, Interrupts, Power control modules, ADC, DAC, Timers, PWM, DMA, WDT, RTCC, IC, OC, and PTG.
Communication Buses: SPI, I2C, RS-232, and CAN.
IDEs: Keil uVision, Eclipse, Visual Studio, Android Studio, MPLAB 8, and MPLAB X.
Software tools: Git, Gerrit, BitBucket, Git Extension, Jenkins, LabVIEW, JIRA, SonarQube.
Lab Equipments: Agilent &Tektronix Oscilloscope, Function generator, Digital multi-meters, DC Power supply, Thermonics, Soldering.
Industrial Robots: Programming KUKA LBR iiwa 7 R800.
Languages: English & Hindi (native proficiency), German (B1), and Kannada (mother tongue)**.**
Other Skills: Assembly level debugging, Byte Code debugging, Bug Fixing, Software Configuration Management, Presentation, Test Automation, Documentation, Unit Testing, PCB Design and Soldering, Requirement analysis.

PERSONAL TRAITS

- Willing to learn new technologies.
- Self-motivated.
- Able to understand work responsibility and follow accordingly.
- Good resource management and a self-starter.

HOBBIES

Yoga, Badminton, Cycling and Hiking.

(Mallikarjun Tirlapur)