

# 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

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### **Embedded Software Developer**

**01.02.2016 –**

#### **Infineon Technologies AG, Augsburg.**

- Embedded software development for building Java Card operating system.
- Responsible for java card virtual machine and software configuration management.
- Built software tools to facilitate daily software continuous integration process.

### **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 front 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 the on touch 2D pixel coordinate.
- Developed algorithms and implemented in C++ on ROS platform to locate objects and box.

### **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 frame 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.**

- Responsible for providing embedded solutions to the customers and promoting to use of microchip's PIC microcontrollers and other products.
- Developed embedded application software.
- Developed peripheral validation libraries for PIC microcontrollers in C.
- Upheld established coding standards in all developed software designs and code.
- Edited & published multiple technical documents such as Datasheets, FRMs, Migration Guide, and programming specification for 8, 16, and 32-bit PIC microcontrollers.
- Reviewed and responded to internal and external customer inquiries in a timely manner.

## 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:** Assembly, C, C++, Python, C#, and Java.

**Microcontrollers & Processors:** PIC18, PIC24, dsPIC, PIC32, 8051, ARM Cortex, MIPS, and 8085.

**Microcontroller fundamentals:** ADC, DAC, Timers, PWM, DMA, WDT, RTCC, IC, OC, and PTG.

**Communication Buses:** SPI, I2C, RS-232, and CAN.

**IDEs:** Eclipse, Visual Studio, Android Studio, MPLAB 8, MPLAB X, and Keil uVision.

**Software tools:** Git, Gerrit, Git Extension, Jenkins, LabVIEW, Borland Together (UML).

**Wireless communication modules:** Zigbee (Maxstream XBee RF Module), and Bluetooth (RN-42 module).

**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:** Software Configuration Management, Presentation, Test Automation, Documentation, Unit Testing, PCB Design, Requirement analysis.

**WebPage**

## 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, Cooking, Hiking, Cycling, and Badminton.

(Mallikarjun Tirlapur)