

# BHARGAVA B HEGDE

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4 year of experience of designing, building and maintaining web and desktop applications end-to-end.

B.E. in Information Science and Engineering from R.V. College of Engineering (2013-14), Bangalore.

Key Skills	Technology
Web design	HTML, CSS, JS
Web applications	Node JS, J2EE, spring, Hibernate, Golang
Desktop application development	Java, python
Mobile application development	Android
Network programming	native sockets, Web sockets – java, js
Object Oriented Design and modeling	Java
Operating system development	Assembly, C
Internet of things	Raspberry pi
Robotics	Raspberry pi
Image Processing	OpenCV, python
Concurrent programming	Golang

## Professional Experience

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- Currently with **INFINERA INDIA** since March - 2016
  - **Generic Micro Service testing framework:** An external service to intercept, record and play back any kind of external events or requests that the service under test receives. (Spring AOP)
  - **Network planning:** Java based desktop application that helps to plan a cost/energy/bandwidth efficient network in a simulated environment with complete control over the devices and traffic.
  - **Network management:** Java based desktop application (Digital Network Administrator / DNA) that handles the nodes in an optical network. The application can handle creating and provisioning digital and optical equipment in a simulated/real-time environment. Users can create links and assign bandwidth between nodes.
- Worked with **INDEGENE LIFESYSTEMS** for **1.5 years** as a Java web developer. (2014 to 2016)
  - End to end development of a web application for job assignment, workflow management and profile handling purposes. The application can handle projects, Purchase Orders, Vendors, and Customers. Also, helps to manage profiles of users, administrators on a role based authorization schema.  
Main technology used - **Spring MVC** with **Oracle DB** for the backend.

## Research and Scientific paper publications:

- **Most Innovative Project Award-RVCE:** Read the thoughts of a person based on a pre trained map of objects using an external non-invasive device (emotive headset).  
Awarded “most innovative project” from the department of Information Science, RVCE for final year project ‘Cerebro’.  
White paper published :(link: [IJITR-white-Paper](#))

## OPEN SOURCE CONTRIBUTION:

- **Web Development:**

- **Micro services architecture Proof of concept:** A proof of concept web application to demonstrate the micro services architecture based on JWT framework authentication. There are multiple services independently running on different docker containers, which talk to each other and authenticate themselves using an encrypted web token. This has proven to be a great model for scalability and extremely flexible for distributed deployment purposes. (link: [microservices-poc](#))
- **Hostel Mess Management System:** Expenses and managing the profiles in the college hostel. PHP, MySQL with apache http server. (LAMP stack)
- **Social Networking Website:** An experimental project to learn the web development. Consisted of features like profile management, friend/unfriend, sending messages, uploading pictures, etc. (LAMP stack)

- **Image Processing:** REST api for tesseract (Optical Character Recognition library by Google) – (link: [ImageToText](#))

- **Golang project:** Developing an end to end encrypted chat application using golang – (link: [GoChat](#))

- **Computer networks:**

Have built applications with network programming both in C and Java.

- **PC Controller:** Desktop application to control the Mouse on PC over the Wi-Fi with android app. Supports click, drag, etc. with “Robot” library. Uses Multi-threading to achieve concurrency. The events are passed from the phone to the PC wirelessly using TCP native sockets in android. (link: [pc-controller](#))
- **Socket file transfer:** Built a client-server application with python scripting that helps to transfer files between two computers within the network (link: [pynet](#))

- **Operating Systems:**

Worked on many low-level projects like

- **Page Replacement Algorithm:** A simulation of various page replacement algorithms using C, as a minor project in third year of engineering.
- **Operating system from the scratch:** Working on a project that aims to build a lightweight 32-bit operating system from the hardware level. (link: [osproject](#))

- **Android Application Development:**

Have worked on development of various small scale mobile applications like

- **GeoReminder:** A GPS based app to remind the user about a task based on previously set locations. When the user is found at the locations saved in the application, a popup reminder is initiated.
- **IMDB App:** A native app to quickly search for a movie or a TV show on IMDB website. (link: [IMDBMovie](#))
- **SMBC App:** A native app to browse through the SMBC comics. (link: [SMBCapp](#))
- **Sleepism:** A simple native app to help the user get more continuous sleep. (link: [Sleepism](#))

- **Hybrid Applications development:**

Have built applications using Apache Cordova.

- **3D Simulation:** An application to imitate the phone’s rotation on a browser. It uses a java based server for receiving the accelerometer data of the phone, and a JavaScript library to perform the 3D rendering. The communication between the app and the server happens with Web Sockets.
- Have worked on Hybrid frameworks like **Ionic, ng-cordova, etc.**

## HARDWARE & IOT RELATED PROJECTS

- **Internet of Things (IOT)**

Worked on hardware-related projects with **raspberry pi** using **python**, **Node js** and **opencv**

- Built a security system with the raspberry pi camera module as the motion detector.
- Built a voice controlled system to perform actions on a set of LEDs (on, off, color change, blink, etc).  
This happens through http via worldwide web. (link: [WebSockServer](#))
- Built a facebook chat bot to automate any IOT device. (link: [FbChatBot](#))

- **Robotics**

Built a robot vehicle with live video streaming using raspberry pi and stepper motors. (link: [robotproject](#))