**SUDHIR KUMAR SINHA**

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**EDUCATIONAL QUALIFICATIONS**B. Tech, Electronics & Communication, NIT Jamshedpur -- **CGPA: 8.84/10**

Class 12th, DAV Public School, CBSE – 81.2%

Class 10th, DAV Public School, CBSE – 85.6%

**TOTAL EXPERIENCE:** **2.5+ years**

* **Current Designation, Company Name, Present Location:** SeniorSoftware Engineer, SAMSUNG RESEARCH INDIA, BANGALORE, [**1.9 year]**.

**Working Since:** April, 2013

* **Previous Company Name, Designation & Location:** ARICENT GROUP, Software Engineer, BANGALORE,[**9month**].

**Working Period:** June, 2012 – April, 2013

**OTHER ACHIEVEMENTS:**

* Own two research papers published in international journals.
* Won First prize for presenting “Geo-fence Based Location Based Services” demo, own developed android application, in NIPUN-2013 (Samsung annual tech fest) at Bangalore.
* Presented a research work in National Conference and the paper were selected to be published in international journal as a reward.
* Got selected in extended merit list in IITJEE-07.
* Won 3rd prize in the mega event “Esprit De Corps” (robotics event) in the annual tech fest of N.I.T. Jamshedpur, Ojass’12.

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| **SKILLS** | |
| **Operating Systems** | Windows, UNIX, Linux |
| **Languages** | CORE JAVA, C, C++ |
| **Tools** | Microsoft Visio; Scilab; Perforce; GDB; Splint; Eclipse; Valgrind. |
| **Domain Specific** | C; Core Java; OOPS Concepts; Data Structures; Algorithms; UNIX Internals, Multi-threading; Sensors; Socket Programming; IPC; Android SDK; Android NDK; SQL; XML. |

**Project Details**

Organization Name: **Samsung Research India, Bangalore**

Duration: **1 year and 9 months** Profile: **Senior Software Engineer**

**Project 1: Geo-fence based Location Based Services**

**(Android Application Development)**

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| **Description** | Main objective of this project is to design, develop, and test Geo-fence based LBS application for android platform. The focus was laid on the implementation of geo-fence related features like creating geo-fence of any shape, editing geo-fence, freehand drawing of fence over map, sharing of geo-fence(s), developing a prototype for navigation without using intermediate server, algorithm development to detect user availability inside geo-fence of any shape etc. |
| **Duration** | 9 months |
| **Team size** | 3 |
| **Contribution** | 1. Prepared software design patterns for geo-fence application. 2. Designed and developed a good UI for Geo-fence application. 3. Implemented the feature of freehand drawing of fence over map. 4. Developed a prototype of navigation without using intermediate server. 5. Implemented algorithm to determine whether user is inside/outside the fence of any shape. 6. Provided solution to handle google bugs to resolve map issue for shading freehand geo-fence. 7. Developed a database management system for storing fence related data/information. |
| **Keywords** | Java, Android, Eclipse, Prevent Tool, XML, SQLite, JSON etc. |

**Project 2: Context Recognition Using Sensor(s)**

**(Android Application Development)**

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| **Description** | Main objective of this project is to do analysis of sensor readings and then develop algorithm to classify and recognize context or activity like driving, stationary, walking, cycling, sitting inside running vehicle etc. using sensors only like accelerometer, gyroscope etc. The activity recognition would therefore be used to optimize and automate other applications like stopping step-count in Samsung Pedometer application while driving, enabling Vehicle-to-Vehicle (V2V) use cases, automating customized profile activation, enabling voice control etc. |
| **Duration** | 6 months |
| **Team size** | 2 |
| **Contribution** | 1. Developed algorithm to recognise activity like driving, walking and stationary context using sensors. 2. Enhanced Samsung Pedometer application to distinguish walking and driving scenarios so that step count could be avoided while driving. 3. Involved in providing sensor related solution. 4. Exposure to Machine Learning. 5. Involved in the deep analysis of sensor (accelerometer, gyroscope) data in various context. |
| **Keywords** | Native Android, C++, JNI, Java, Sensor, Machine Learning, Scilab, Eclipse etc. |

**Project 3: Modem Protocol Enhancement**

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| **Description** | Main objective of this project is to analyze and provide complete solution to various issues for different chipsets like Qualcomm, CMC, Marvell etc. from the NAS (Non Access Stratum) prospective for flagship mobiles in 2G/3G/4G networks. |
| **Duration** | 6 months |
| **Team size** | 46 |
| **Contribution** | 1. The main task was to analyze and provide solution to resolve LTE/UMTS based issues of NAS layer as per specifications. 2. Involved in the study and discussion of the various 3GPP technical specifications related to NAS like 24.008, 23.122 etc. 3. Involved in understanding and giving presentations on GPRS, UMTS, and LTE architecture and basic modules at various layers. |
| **Keywords** | Windows, QXDM, QCAT etc. |

Organization Name**: Aricent**

Duration: **9 months** Profile: **Software Engineer**

**Project 1: TR-069 for HeNB Management**

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| **Description** | To develop TR-069 protocol for managing Alcatel Lucent HeNB.The ALU HeNB is the managed device logically comprises a TR-069 Agent and File Client. TR-069 Agent corresponds to the TR-069 Customer Premise Equipment (CPE) function. The file client may be used for the upload or download related to HMS management, such as upload of performance measurement files or alarm logs, as configured by TR-069 Manager via TR-069 Agent. |
| **Duration** | 5 months |
| **Team size** | 6 |
| **Contribution** | - Understanding the architecture of CPE WAN management protocol and internal design of the TR-069 Dimark Protocol Stack to implement the TR-069 Agent in the ALU HeNB device. The prototype of the end-to-end implementation from HNM server to the ConfD database via the Tr-69 Agent is tested with Backhaul HNM (Home Network Management) Simulator. The scenarios include Device registration with HNM with factory settings, GetParameters, SetParameters, AddObject, DeleteObject etc.  - Exposure to virtualization. |
| **Keywords** | C, Linux, ConfD, Socket programming, YANG, VMware |

**Project 2: FTP Simulation (Training Project)**

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| **Description** | Main objective of this project is to develop and simulate FTP protocol in Unix Server and to implement various features of File Transfer Protocol (FTP), viz, file download, file upload, multiple file download/upload etc. in multi-threaded environment. |
| **Duration** | 1 month |
| **Team size** | 4 |
| **Contribution** | 1. Requirement gathering. 2. Involved in Design like LLD and HLD. 3. Done unit and integration testing. 4. Documentation: Document the project for future reference. 5. Coding: Involved in coding of the entire module. |
| **Keywords** | UNIX, C, Socket Programming. |

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