**NAVAL KUMAR KASHYAP**

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**Technical Skills**

**Languages:** C/C++ (Data structures & Algorithms), Python

**Products:** Cisco MME/S-PGW, Nokia Flexi Next Gen Gateway (LTE)

**Operating Systems:** Ubuntu, Windows versions, and Mac OS

**Hardware Platform:** Cisco ASR5000/5500, Cisco 3950 ISR, Cisco Catalyst 3750, ATCA, Dx200

**Tools Used:** Eclipse**,** GitHub,Wireshark Analyzer, Nethawk, Monitor Protocol, Lattice, Bugzilla, Jira, CDETS

**Telecom Domain:** Understanding of LTE/SAE, 3GPP Standards, EUTRAN and UMTS/GSM

**Protocols:** TCP/IP, SCTP and Routing Protocols (RIP, OSPF, EIGRP) and 3GPP standardized protocols

**Educational Qualification**

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| **Master of Science in Computer and Software Engineering** | Expected Graduation - March 2017 |

University of Washington

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| **Bachelor of Technology in Electronics & Telecommunication** | 2004 – 2008 |

University: GGSIP University affiliated to ACITE, India

**Professional Summary**

* Currently working on development of a routing protocol for Wireless Sensor Networks
* Worked as a Software/QA Engineer in Cisco’s 4G core network element MME
* Worked on LTE, IMS, 3G/2G (eUTRAN/UTRAN/GERAN)
* Worked on System integration testing and End-to-End testing for VoLTE.
* Experience in Agile Software Development Life Cycle
* Development of automation framework for in-house tools using Python
* Participated customer demos and Lab trials.
* In-Depth understanding of Customer (Vodafone-Germany) Network and involved in reproducing issues and testing the solutions in a laboratory environment.

**Projects Undertaken**

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| **RF-powered Battery-free Wireless Sensor Network** | Autumn-2016 |

Currently developing a routing algorithm that will enable wireless sensors to communicate with each other and transfer data in the network. Major challenges in this network are that sensors have limited power supply, as they need to harvest energy from surrounding RF signals emitted by other devices like mobile phones, Wi-Fi access points, cellular towers etc. To achieve longevity, batteries are replaced with capacitors that can only hold limited energy. As it is expected that the network will not get uniform RF-energy over the time, routing algorithm must be able to optimize data routing in close real time to achieve maximum efficiency.

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| **Stress Detection, Recognition & Relief** | Spring-2016 |

Currently working on a project to build a complete solution that helps the people to detect their psychological and physiological condition of the stress level and suggests them a variety of different ways to alleviate stress based on their interests. In this project heart rate sensor, GSR sensor and pedometer are used to record various human conditions, which can detect if a person is in stress. A mobile application will be used to connect to a wearable device, which gathers the data and upload it to a cloud-based system for analysis and determines the stress level. Machine learning algorithms will be used for data analysis and finding patterns to create a profile for each single individual that can help to increase the accuracy of stress recognition.

**Professional Experience**

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| **RF-powered Battery-free WSNs at University of Washington**: |  |
| Duration: | Sep 2016 till Current |
| Period of Employment: | 1 months |
| Role: | Graduate Student Research Assistant |

* Design a routing protocol that will enable wireless sensor network to deliver data efficiently with imposed restrictions for research work
* Developing a simulation environment using Network Simulator 2 to test various hypothesis and support research work

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| **Software Development for EKOS PT4 at BGT plc**: |  |
| Duration: | June 2016 till Sep 2016 |
| Period of Employment: | 4 months |
| Role: | Software Development Intern |

* Worked on User Interface module of an application written in C++ and runs on Segger embOS
* Application is used in a medical equipment specialized for treatment of Pulmonary Thrombosis
* Handled bug fixes to improve software stability and enhance efficiency of medical equipment
* Initiated a new project to shift software testing from manual to automation using open-source automation framework, expect to improve testing cycle from 20 days to 5-6 days

**Product Development of Cisco MME**

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| Duration: | July 2011 till August 2015 |
| Period of Employment: | 4 years |
| Role: | Software/QA Engineer II |

* Developed new features and enhancements for Cisco MME
* Root-cause analysis of defects found from real-time networks
* Wrote Test strategy and test cases with a high focus on deploy quality products
* Worked in the development of in-housing testing tools, written in Python and C
* Created automation framework using Python/TCL which helped the testing team to run test cases automatically and hence reducing their efforts

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| **LTE/IMS End-to-End Testing at Nokia**: |  |
| Duration: | August 2008 till July 2011 |
| Period of Employment: | 3 years |
| Role: | Research and Development Engineer |

* Responsible for the lab environment setup of LTE/IMS network for the customer demo and trails
* Proof of concept and Inter-Operability testing for various vendors with Nokia products like MME and eNodeB
* Worked on end-to-end LTE environment. Testing of Nokia Flexi NS (MME) with other network elements on interfaces
* Knowledge of Layer 2 and 3 protocols like RRC, RLC/MAC

**Achievements**

* Outstanding Performer in Nokia Networks for my contribution to bringing up the 4G network in SRN lab and performing exceptionally well from my role.
* Set up internal LTE lab for validation and system verification for a full fledge VoLTE solution involving MME/S-PGW, eNodeB and ISP (Media Servers).
* Won “Spot Award” for the success of first ever TD-LTE call on 2.3 GHz using commercially available hardware across the world in a Media Event, which was highly appreciated by customers and higher management.