UMESH KUMAR JAIN

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EDUCATION

Pursuing **Masters in Computer Science** from **Stony Brook University** (The State University of New York at Stony Brook) and would expect to graduate by **May, 2017**.
Bachelor of Engineering in **Information technology** from **Birla Institute of Technology, Mesra,** India
Aggregate: **Distinction w/ 1st class** (71.5%) – BE Information technology

ACADEMIC COURSES

Operating System, Computer Networks, Complex Algorithms, Asynchronous Systems, Big Data Analytics, System Security, Network Security

ACADEMIC PROJECTS

JOS Operating System
Developed kernel for preemptive, multiprocessing operating system JOS on Intel x86_64 architectures.
Implemented core features like memory management, page tables, multiprocessing, file system and shell
Extended JOS with paravirtual hypervisor using bochs x86 emulator with VTx hardware support
Written driver for E1000 (Intel 82540EM chip) network interface card using QEMU's usermode network stack and the virtual E1000 network card.

Network and System Security

Network monitoring applications like TCPDUMP in C and Python using the libpcap, scapy

Developed applications to detect and prevent DNS Spoofing and Proxy Filtering

Image Enhancement using Fuzzy Logic

Formulated an algorithm and presented Proof of Concept for a Tunable Fuzzy Median Filter for noise removal from images without involving complex transformations, using MATLAB.

WORK EXPERIENCE

Lead Engineer, Samsung Research India – May, 2011 to December, 2015.

Carried out cutting edge Research as well as converting concepts into real software products in Telecommunications domain including Iotivity, Shared Appearances across multiple smartphones, Voice over LTE , Rich communication suite, Video Telephony over 3G.

Deep and extensive understanding of Network protocols like SIP /RTP /SDP/XML and Audio Video Codecs used for telephony.

Deployed Projects:
Advanced Calling 1.0(HD Voice and Video over LTE) and Advanced Calling 1.1, Rich Communications Suite with enhanced address book and presence features for Verizon Wireless.
Voice over LTE and Emergency call over LTE feature for AT&T, USA.
HD Voice and Video and SMS over IMS for T-Mobile, USA.
TEMS: Network Performance Analyzer, Deployed for MetroPCS' Commercial LTE Devices for analyzing Network endpoints based on feedback data from Mobile device.

Research Outcomes:

Account name	Description
Shared Appearances for AT&T and T-Mobile	Single device multiple accounts and multiple devices running same account using SIM on the Cloud and Login based credentials for smartphones.
Advanced calling 1.0	Design and developed interface protocols and IPC's for mobile and network interactions for making Voice /Video / SMS /Presence and other rich communication features feasible over LTE Network

Software Engineer, Aricent Technologies Holdings Ltd. - September, 2010 to April 2011
Involved in development and verification of Centroid, a complete multimedia player solution for Android platform incorporating 46 widely used audio and video codecs in its software stack.

ACHIEVEMENTS & ACTIVITIES:

Spot Award at **Samsung Research India** for development of TEMS, A Network Performance Analyzer tool **(2012), Employee of the Month** for successful deployment of world's 1st VoLTE Device for SK Telecom, South Korea at **Samsung Research India (2013), Employee of the Month** for successful deployment of Advanced Calling 1.0 for Verizon Wireless at **Samsung Research India (2014), Team Events Organizer** for IMS team at Samsung Research India.