

Dheeraj Kakkar

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Profile Summary:

- I have **3.9 years'** experience as **Software Professional** in the IT industry.
- Have good understanding of **Data Structures, Algorithms in C/C++** and Python, through knowledge of Object-Oriented Programming.
- Have good understanding of **Linux** Process Internals like **Memory Segments** and **Virtual Memory Maps** and also have hands on debugging **Memory** crashes.
- Experience using **Multi-threading** and Socket **Programming, IPC** in Linux.
- Have basic understanding of Linux Kernel Modules Like **Character** device driver.

Technical Skills:

- **Languages:** C, C++, Python, Bash.
- Data Structures, Algorithms, Operating System, Object Oriented Programming.
- **Dev Tools:** Vim, Source Insight, C-Tags, Cscope, Visual Studio Code, ADB shell.
- **Versioning Tools:** Git, RCS, Perforce, SVN.
- **Reverse Engineering:** GDB, Ida-Pro, Ghidra, binwalk, readelf, objdump, nm, Valgrind.
- **Linux Concepts:** Sockets, **IPC** techniques like **Pipe, FIFO, Shared Memory and IPC** synchronization techniques like **Semaphores, Mutex and Spin Locks, Linux Device drivers**.
- **Container Tech:** Docker, LXC, Control groups and Namespaces.
- **Networking Protocols:** TCP, UDP, ICMP, SNMP, FTP, TFTP, DHCP, ARP, TCP/IP Stack etc.
- **Operating System:** Linux, Windows.

Work Experience:

Software Engineer, F5 Networks & Innovations Pvt. Ltd.

Jan'19 - Present

- Working on LTM and ASM Component of Classic **BigIP**, key Product of F5.
- Developed and added various features to enhance quality of F5 products.
- Developed various Tools to Speed Up the Integrations with Fixes.

Software Engineer, Iotina Technologies Pvt. Ltd.

July'16 - Oct'18

- Developed DHCP Snooper Application on Wi-Fi router operating on OPENWRT.
- Developed Iptables Target extension module and added firewall support on IPV4 and IPV6 network for Wi-Fi routers operating on RDK-B framework.
- Completed MQTT client for OpenWrt to send data collected from router to MQTT server using **Protobuf** for encoding the data and data collected from Router is stored in **Elasticsearch** database by server and used **Kibana** to visualize it.

Software Developer Trainee, Emblogic Technologies Pvt. Ltd.

Feb'16 - June'16

- Wrote data in device character by character and read data character by character. Input Output operations performed on SCULL which includes opening, reading, writing and closing the character device driver.
- Performed Multiple Client Communication using Socket Programming with the help of TCP protocol.
- Completed Inter Process Communication using Linux System Programming. Processing Client invoke by the server according to the requesting client request.

Projects:

Designed Banking Framework

Skills: C++, OOPS

- Structured framework which handles all the operation and data such as account creation, balance enquiry, withdraw and account deletion.

Implemented Minimal DNS Server

Skills: C++, DNS, UDP, SOCKET API

- Implemented DNS server which resolved Domain Names and returns IP addresses. It listens on valid open UDP port. On best ICMP early response time it sorts the IP address list and returns the best reachable server's IP address.

Encrypted Multiple Client Communication using MQTT Protocol

Skills: Python, Socket Programming, MQTT

- Learned and Executed Publish/Subscribe communication pattern means publisher publish the message and subscriber accept the message. Broker pushes the information out of those clients that have previously subscribed.

Educational Qualification:

- Btech in Electronics and Communications from Gurgaon Institute of Technology and Management (2012-16) with 69 %.
- Pursued Intermediate with 76% in 2011 from CAV Senior Secondary School.

Achievements:

- Secured 3rd. Rank in F5 Hackathon.
- Won 1st Prize in College Technical Fest in Gesture Controlled Robot Project.
- Won 2nd Prize in Minimum Resource circuit optimization in College Technical Fest.
- Discipline coordinator in College Fest. Organized and managed many events as part of my role.
- Received appreciation for being adaptive, open to take up tasks and learning new technologies.
- Organized various activities both at Team and Company level like Badminton and Table Tennis Tournament