



SUKHDEEP SINGH

Software Architect

PROFILE

Experienced *Software Architect* with around 15 years of experience in software engineering, design and management.

Excellent reputation for resolving problems, improving customer satisfaction, and driving overall operational improvements.

Lead architectural strategy, and technical direction on networking solution products.

CONTACT

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SKILLS

DESIGN AND DEVELOPMENT

- C++ 11/14/17
- Python, PySpark, Kafka, etc.
- Qt, QML, QtQuick, ReactJS
- Software & System Designs
- UML, Archimate
- GTest, GMock, Pytest, BDD
- Code Reviews
- ROS, DDS
- Yocto, Embedded Linux
- Domain Driven Development
- Test Driven Development (TDD)
- TCP/IP, IPv4/v6, SNMP, DHCP
- CI/CD, DevOps
- Git, Clearcase

MANAGEMENT

- Process Management
- Agile, SCRUM
- Team Building & Mentorship
- Customer Management

WORK EXPERIENCE

Software Architect

KPIT Technologies GmbH, Germany / July 2019 – Present

- Directed software design and development across multifaceted team to meet client needs for functionality, timeline and performance.
- Designing and development of various ROS nodes and channels to collect and process the data from various sensors.
- Development of *Trajectory Planning and Object detection* modules using the data collected through respective ROS channels.
- Debugging through ROS visualization tool such as *Rviz*.

Tools/Technologies: C++14/17, ROS, Rviz, Embedded Linux, Python, Git, MATLAB, TDD, GTest, PyTest, valgrind, gdb

Technical Architect

Aristocrat Technologies Pvt. Ltd., USA/India / Mar 2017 - Jul 2019

- Developed network and system architecture.
- Participated in all phases of system development life cycle, from requirements analysis through system implementation.
- Reviewed technical product designs and architecture.
- Identifying technical risks related to the projects, and proposing feasible solutions or alternatives.
- Co-ordinated analysis, design, and implementation activities.
- Design and development of monitoring application in Qt/QML

Tools/Technologies: C++11, Qt, QML, MS-Project, Jira, Embedded Linux, Yocto, TCP/IP, Socket Programming, valgrind, UML, Wireshark

Principal Engineer

Hughes Systique Corporation, USA / Dec 2011 – Mar 2017

- Managed multi-disciplinary team developing communication products. Plan, schedule, and track all tasks to meet the various requirements.
- Used information in technical diagrams, schematics and manuals to understand operations and make successful design.
- Co-ordinated functional demos with stakeholders
- Development of GUI in Qt, QML to visualize network flow.
- Development of tools related to iperf traffic generation, process monitoring, header compression, DNS Proxy, etc.

Tools/Technologies: C++, Linux, Python, Qt, QML, TCP/IP, SNMP, ARP, Socket Programming, valgrind, gdb, UML, Wireshark, iperf, gprof, strace

EDUCATION

- **MBA (Strategic Management)**
Faculty of Management Studies (FMS), New Delhi
- **B.Tech. (Computer Science)**
YMCA Institute of Engineering, Faridabad (New Delhi)

CERTIFICATIONS

- Certified Scrum Master
- Certification in Data Science
- Certification in Deep Learning

LANGUAGES

- English ●●●●●
- German ●●●●●

OPEN-SOURCE CONTRIBUTION

- NS3 – Network Simulator
- Packet Capturing

Senior Software Engineer

Boden Software Systems, India / Aug 2010 – Dec 2011

- Coordinated with hardware and system engineering leads to gather and develop system requirements.
- Designed, developed and tested embedded software applications.
- Involved in unit, integration, and system testing of device drivers for network products on simulation, emulation and hardware platforms

Tools/Technologies: C++, Qt, QML, Linux, Python, TCP/IP, DHCP, SNMP, UDP, Socket Programming, valgrind, tcpdump, iperf, gprof, strace

Software Engineer

Conexant Systems Inc., India / Mar 2005 – Jun 2007

- Wrote highly maintainable, solid code for network systems, and earning consistent praise from subsequent developers.
- Implementing support for MIB objects in SNMP agent.
- Designing an object-oriented structure to communicate with lower layers of various parts of DHCP

Tools/Technologies: C++, Qt, Linux, SVN, TCP/IP, DHCP, SNMP, UDP, Socket Programming, valgrind, gdb, Wireshark, tcpdump, iperf, strace

Software Engineer

HCL Technologies Ltd., India / Aug 2004 - Mar 2005

- Conducted regression testing, analyzed results and submitted observations to development team.
- Gathered data on integration issues and vulnerabilities and reported all findings, including recommendations.

SUMMARY

- Extensive experience in working with modern **C++11/14/17** and **Python**.
- **GUI implementations** in **Qt/QML** and **ReactJS**.
- Extensive Experience in **designing various software models**, such as layered design, monolith application, services, etc.
- Product design, development, and management for **embedded systems, automotive, and network communication**.
- Experience in working with **Sockets** and **various IPCs** (Threads, Shared Memory, Mutex, and Semaphores).
- Possess expertise in **Object-Oriented Analysis & Design** (UML and Design Patterns).
- Working experience with various **networking protocols**, like TCP, IPV4, IPV6, DHCP, SNMP, SOME/IP, CAN, ARP, etc.
- Hands on experience in working with **performance monitoring tools** like iperf, strace, ltrace, gprof, valgrind, etc.