PAVAN PONGLE

C++ Software Developer

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LinkedIn
Github repo link
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About me

For the last 9 years, I have been working in C++ application development in Cyber security, HFT and PLM & CAD domains. Mostly, I worked on C++ and related tools but also small part of my experience is on C#, Java and web technologies. I have built expertise in multithreading, meta-programing, UI designing and high-performance C++ coding. And I have a good understanding & interest in high performance programming and system programming.

Skills

- C++ 11/14/17/20.
- Standard template library (STL).
- QT, Boost, Curl, ProtoBuf, Zlib, nlohmann json, Openssl etc. libraries.
- Data structure & Algorithms.
- Multi-Threading and concurrency.
- Lock-free programming.
- Template Programming.
- System programming with Windows API and POSIX API.
- IPC like Socket, Pipe, Shared memory.
- Advanced Design Patterns.

- Git, Perforce SCM.
- Python, shell & Batch Scripting.
- CMake, Make, Boost & MSBuild build system.
- Micro benchmarking with google benchmark.
- Junit, Gtest etc. unit test framework.
- Valgrind, GDB, TSAN, Dr Leak etc. other memory leak & thread deadlock detection tools for windows and Unix platform.
- WIX and advance installer for windows and Unix application installer.
- C# Java Javascript HTML.
- Xamarin framework.
- SQL and Database.

Experience

Oct 2021 – Jul 2024

MEMBER OF TECHNICAL STAFF III, Colortokens India LLP.

- Contributed to agent software development for Windows, Linux, AIX, Solaris, and Mac.
- Tasks like packet capturing, analyzing, and reporting to a server via REST API and firewall rule programming to allow and block traffic flow, log/diagnostic report collection and reporting. Also worked on maintaining the installer for both Windows and Unix platforms.
- Converted POC to project for support of agents on the Win32 server, RHEL and Solaris.
- In the next-generation agent development, the major contribution was towards C++ code design & code review.
- Improved packet capture and analysis performance by adopting protocol-specific (TCP/UDP/ICMP) PCAP filters, lock-free algorithms, use of LRU cache, compiler flags and various other optimisation techniques by taking micro benchmarking of every change.

Skills utilized: C++17, micro benchmarking, lock-free programming, Make/CMake build tools, Boost, Curl, zlib, Openssl, nlohmann JSON, Protobuf etc. Shell scripting, IPC like pipe, shared memory, WIX and Linux installer, analysis of core/crash dump for memory leak and high CPU usage, Windows API and POSIX API. Build time optimization.

Oct 2019 - Oct 2021

SENIOR SOFTWARE ENGINEER, FIS Solutions Pvt. Ltd.

- Contributed to order routing module from proprietary trading software.
- The module was responsible for communicating with the exchange over the socket.
- Decoding and encoding trade/order/exchange messages and from exchange communication protocol.
- Written unit tests and exchange simulator for KRX/KRUSG/SEHK/ASX.
- Worked with over 5 APAC exchanges and on their native/standard protocols.

Skills utilized: C++14, Boost build system, Boost C++, Python script, IPC, Socket programming, Gtest framework, core/crash dump analysis.

Jul 2018 - Oct 2019

SOFTWARE ENGINEER, HCL India Pvt. Ltd.

- Worked on Teamcenter (PLM suite) In C++ development and writing unit tests.

Skills utilized: C++11, perforce and Junit test framework.

Sep 2015 - Jul 2018

SOFTWARE ENGINEER, Prototech Solutions Pvt. Ltd.

- Developed Katera Visualizer an iOS app from scratch using the Xamarin framework for visualizing IFC files with the help of the xBIM toolkit and webGL. Done shader programming for Billboard implementation.
- Inspection Xpert 2.0, developed from scratch in C++11 and QT 4.3 framework lib for UI design, along with used pdf and 3D file rendering libraries, making annotations, export of annoyed data, report generation, and Excel API.
- Contributed to Inspection Xpert 1.0 maintenance, which was developed in C# with DevExpress and Excel API.

Skills utilized: C++11, QT library, C#, Js, HTML, CSS, Xamarin framework, WebGL.

Education

Masters in Computer Networks, Pune University, India. 8.7 GPA

- Research Paper Publication in IEEE Journal 2015 On IOT Wormhole Attack Detection.

Awards

- Quarterly champion award by Colortokens in Q4 2023 for fast bringing up of Solaris Agent.
- Budding star by Colortokens, towards dashing contribution in Aug 2022.
- Recognition by FIS, for writing an exchange simulator for SEHK, KRX and KRUSG exchanges, in 2019.