**Qualifications Profile**

**Innovative, performance-focused, and highly analytical professional, offering broad range of experience in software engineering, embedded development, 3D graphics, and physics simulation.** Equippedwith solid expertise in software design, full stack development, shaders, tools, hardware drivers and database. Skilled in creative and visual arts, audio/video technology and modeling. Articulate communicator with well-honed interpersonal skills essential in collaborating and building relationship with various individuals. ***Previously held Security Clearance.***

**Core Competencies**

*Linux System Development ~ Data and Application Architecture ~ Rapid Problem Resolution*

*Strategic Planning and Implementation ~ System Management and Maintenance ~ Patterns and Connections Identification*

**Professional Experience**

Smart Start Inc, Dallas, TX

***Software Engineer*** May 2018 – Current

* Developed web based tools.
* Firmware development on Rtos and embedded Linux
* Developed C++/Python related tools
* Design and implement a custon build server

Lockheed Martin, Grand Prairie, TX

***Contract Software Engineer*** October 2016 – April 2018

* Create and debug geospatial features for propitiatory code base in C++, C#, and CLI.
* Perform research and development of new features for next generation of geospatial software
* Write and debug code base in Java, JavaScript, AngularJS, NodeJS, and HTML for web front-end and server back-end for battery storage
* Extended REST API by adding new features to the server back-end

Eagle Design Studios, Fort Worth, TX

***Contract Software Engineer*** May 2016 – August 2016

* Debugged current titles and developed new titles in Unity3D, C# and .net
* Redesigned game platform and rendered strategic guidance in modernizing and debugging current game titles
* Improved usability and resolved field-related problems by rewriting bill acceptor drivers in C++, C#, and .NET
* Implemented cutting-edge game designs to be applied on redesigned game platform
* Provided key insights in modernizing and debugging current game titles

Scientific Games (Formerly WMS Gaming), Chicago, IL

***Principal Level II Software Engineer*** March 1998 – February 2016

* Created shaders that produced enhanced visual effects and minimized required art assets
* Developed physics simulation tool for record and playback of specific outcomes as animations
* Embedded software development on a 8, 16, 32 & 64 bit chip in C, C++ and assembly to deploy on a proprietary and Linux OS
* Improved visual appeal, boosted productivity, and strengthened edge against competitors by developing custom tools and featurettes which can be used by other game developers to easily adopt common features for a specific product brand
* Enhanced developer productivity and visual appeal of the final product through the implementation of a 2D animation engine for an embedded platform
* Designed games and featurettes on a proprietary, Linux and Unity3D platforms in C, C++, Assembly, C#, Python, Lua, Perl, Bash Scripts, and .Net
* Demonstrated expertise in developing more than 20 top-seller games, as well as these well-known titles in the industry:
  + *Reel of Riches progressive game and featurette;*
  + *Lord of the Rings bonuses and featurettes;*
  + *Star Trek games;*
  + *Price is Right–Any Number– game with three independent reel groups;*
  + *Monopoly Party Train game;*
  + *Highly-animated Lucky Meerkats game*

**Projects Handled**

Project Name: **DIIRT** (Desktop Ignition Interlock Regression Tester)

Role: Software Engineer / Full stack

Software Used: C++, Python, Rest API, Database

Objective: Debug, Extend and add features

* Continue development on software that controls custom device for testing interlock firmware
* Full stack development on web related tools for capturing and analizing test data saved to database
* Add firmware support for binary patching
* Embedded Linux development with Bitbake Yocto for Nordic processors

Project Name: **TopScene Project**

Role: Contract Software Engineer

Software Used: C++, C#, and CLI

Objective: Modernization of geospatial software through osgEarth implementation

* Devised bug fixes and added customer-required features to the propitiatory geospatial software, including integration of osgEarth to eliminate the legacy ROAM implementation
* Redeveloped legacy shaders to be used in osgEarth’s shader composition format, which involved utilization of legacy code to calculate the data passing in the shader
* Drafted code to load environmental objects (trees, building, and vehicles) from a SQLite database to be positioned on osgEarth execution to take full advantage of installed base of graphical assets

Project Name: **Energy Storage Project**

Role: Contract Software Engineer

Software Used: Java, JavaScript, Scala, HTML, and AngularJS.

Objective: Designing of new features and hardware drivers

* Initiated efforts in meeting and surpassing scrum points and deadlines by efficiently debugging Java, JavaScript, and HTML code
* Conceptualized and created a custom Linux platform to change the current Window-based platform to be used as their web server, thus saving money for each installed base and enabling more flexibility and custom features
* Deployed dynamic web configuration page that enabled easy customization of installed base through web interface, thus simplifying its maintenance

Project Name: **Game Development Projects**

Role: Principle Level II Software Engineer for WMS Gaming

Software Used: C, C++, C#, Assembly, .NET, Python, Lua, Perl, Bash Scripts, and Unity3D

Objective: Creation of games with an engaging experience and develop tools to enhance productivity

* Developed physics simulation tool for recording and saving outcomes as key frames on later playback to provide the illusion of random movement to control final outcome
* Implemented a software rendering 3D engine on an embedded, 16-bit proprietary OS
* Conceptualized new architecture for multiple reel groups to be played in a single game which enabled new games to easily deploy this feature
* Displayed proficiency in developing over 20 unique game titles, 5 featurettes, and a multitude of developer tools

**Education**

**Coursework in Liberal Arts**, Triton College, River Grove IL

**Professional Development**

Agile and Unity3D Training Courses

**Activities**

**Game Engine Development**

* *DirectX Game Engine in C++*
* *OpenGL Game Engine in C++ with SDL2*
* *OpenGL Engine in Java*
* *OpenGL and DirectX shaders*
* *Android Development in NDK/C++ and Java*
* *Software Rendering Engine in C++/Assembly*
* *Wrote a physics engine in C++*
* *Wrote a particle engine in C++*
* *Integrated Box2D for 2D game physics*
* *Integrated Bullet for 3D game physics*
* *AngelScript for Game Element Scripting*
* *Written Client and Server Socket Code*
* *Shadow Mapping to DirectX 3D Engine*
* *Custom Scripting Engine for animation and motion*
* *Post-processing Shader to blur and color drain the screen*
* *Gimp Plug-in to create Sprite Sheets in Python*
* *Used Unity3D to create a game demo for the OUYA console*

**Technical acumen**

|  |  |
| --- | --- |
| *Languages* | C++ (03, 11, 14, 17 & 20) | C (99 & 11) | Assembly | Python | Java Script  | C# | Java | Lua | CLI | Perl | Bash Scripts |
| *Development Environment* | Microsoft Visual Studio | VS Code | MatLab | Unity3D | NetBeans | SlickEdit | CodeLite |
| *Version Control Systems* | CVS | SVN | Git | Perforce | Microsoft Team Foundation Server |
| *Project Methodology* | Agile |
| *Libraries* | Vulkan | DirectX | OpenGL | STL | Boost | Flask | pyqt | pysvn | XlsxWriter | SDL2 | AngelScript | Box2D | Bullet Physics | xACT | QT | AngularJS | Node.js | .NET | Java Framework | OSG | osgEarth |