HOWARD C. ROSENORN

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QUALIFICATIONS PROFILE

Innovative, performance-focused, and highly analytical professional, offering broad range of experience in software engineering, game development, 3D graphics, animation and physics. Equipped with solid expertise in developing featurettes, shaders, and tools; creating hardware drivers; and writing and improving build scripts and codes. Skilled in creative and visual arts, audio/video technology, modeling, design, programming, and management. Articulate communicator with well-honed interpersonal skills essential in collaborating and building relationship with various individuals. ***Currently hold Active 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

Lockheed Martin, Grand Praire, TX
Contract Software Engineer 2016–2018

- 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 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 1998–2016

- 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;*
    - *Life of Luxury progressive game and featurette;*
    - *Lord of the Rings bonuses and featurettes;*
    - *Star Trek games;*
    - *Haunting Beauty game with ghostly wilds;*
    - *Price is Right–Any Number– game with three independent reel groups;*
    - *Monopoly Party Train game;*
    - *Bier Haus game with free spin bonus and floating wilds; and*
    - *Highly-animated Lucky Meerkats game*

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PROJECTS HANDLED

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, custom features, and solutions*
- *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) | C (99 & 11) | Assembly | Python | Java Script | C# | Java | Lua | CLI | Perl | Bash Scripts
Development Environment	Microsoft Visual Studio | MatLab | Unity3D | NetBeans | SlickEdit | CodeLite | CodeBlocks
Version Control Systems	CVS | SVN | Git | Perforce | Microsoft Team Foundation Server
Project Methodology	Agile
Libraries	DirectX | OpenGL | STL | Boost | SDL2 | AngelScript | Box2D | Bullet Physics | xACT | QT AngularJS | Node.js | .NET | Java Framework | OSG | osgEarth