

<p>Slade R. Villena</p> <p>https://www.sladevillena.dev</p> <p> slade@roquestar.games</p> <p> US 1-469-810-1948</p>	<p>Software & Embedded Engineering</p> <p>Game Design & Ludology</p> <p>Veteran, Marine, Hacker</p>
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“Hacking the world, one byte at a time. Have code, skills, grit, and willing travel.”

Professional Experience

York Space Systems (Austin, Texas, USA)

Senior Software Engineer (MAR 2023 - Present Day)

Lead developer for visualization of satellite mission operations. Working with the Simulation Test and Automation team coordinating HWIL+SWIL simulations for space vehicles and space sensors.

Independent Game Developer (Austin, Texas, USA)

VR/AR Game Engine Programmer (2011 - Present Day)

Currently developing a VR+PC esports title from the ground up. Engine integrations with AWS clustered tournament nodes. 3D+2D animation and UI/UX. Shader programming and game AI design.

Drones, Weapons & Sensors Developer (Austin, Texas, USA)

Embedded Systems Programmer (2018 - Present Day)

Working on novel sensor modules, DJI drones + Auterion Skynode, interfacing drones with VR headsets (Meta Quest, Valve Index). Developing accelerometer & visual A.I. integration with pistols and rifles.

Auterion (remote-work) (Zurich, Switzerland & Moorpark, California, USA)

Senior Software Engineer : Auterion Mission Control (2020 - 2022)

QGroundControl, PX4, AMC, Skynode, Skynav & C++ Qt/QML development for Auterion open source drone control systems. Working with DoD, US Marine Corps and US Army projects involved in sUAS, SRR and MRR domains. MAVLink protocol programming & design.

Bohemia Interactive Simulations / TerraSim Inc (remote-work) (Pittsburgh, Pennsylvania, USA)

Software Engineer : VBS3/4/BlueIG + TerraTools

C++ programming on world simulation software geared for military and federal clients. Working with software teams in TerraTools, VBS3, VBS4 and VBS Blue IG.

NASA Ames Research Center (Mountain View, California, USA)

Software Engineer : Multi-UAS Drone Control Systems

Main engineer for the SCORCH project. Created prototype systems for multi-UAS drone control and autonomous flight in ISR operations. Designed, debugged, and integrated simulation software into novel military hardware systems via joint NASA and US Army research.

United States Marine Corps (Alpha Battery, 1st Battalion, 12th Marine Regiment)

Corporal of Marines : 0811 Artillery Cannon Crewman

Deployed to Okinawa, Japan, Thailand & Korean Peninsula.

Education

University of California, Santa Cruz, USA

Degree : Bachelors of Science, Computer Science (Game Engineering Track)

PlayStation3 Academic Program, under Sony Computer Entertainment of America

Technical Experience – Software & Computer Engineering

Primary Languages & Programming

- **C/C++** (20+ years): Advanced toolchain maintenance, cross-platform (gcc, clang, cmake, gradle, maven)
- **Lua** (15 years): Embedded scripting and C++ bindings
- **GLSL** (15 years): Shaders for OpenGL and OpenGL ES
- **C#, Java, Python, JavaScript, Go, Objective-C**
- **Shell Scripting**: Bash, PowerShell, WSL2

Specializations

- **Graphics Programming:**
 - OpenGL 3.3 Core, OpenGL ES, GLSL
 - WebGL, OpenSceneGraph
 - Shader authoring (GLSL), scientific rendering, GPU optimization
- **UX / UI Systems:**
 - SDL2, Qt/QML, FLTK, WPF, AntTweakBar, Dear ImGui
 - Custom UI tools & scientific interfaces
- **Electronics, Embedded Systems:**
 - Arduino, Raspberry Pi, I2C, SPI, UART, GPIO
 - PCB assembly, clean-room protocol, sensor integration
- **Cross-Platform & Systems Programming:**
 - Windows, Linux, macOS, iOS, Android, PS SDK, Xbox, Meta Quest
 - CMake, Gradle, Android NDK/JNI, iOS bindings, kernel module experience
 - C++11/14/17, template meta-programming, lock-free concurrency

Networking & AI

- **Network Programming:**
 - Multi-process TCP/UDP, simulation backends
 - Data serialization (Google Protobuf), Web tech (HTML/CSS/JS/Node.js/Go)
- **AI & Control Systems:**
 - Multi-agent systems, pathfinding, swarms, collision avoidance
 - PID controllers, concurrent ML coursework
 - Working knowledge: TensorFlow, PyTorch, generative art workflows

Game Engines & Tools & Devops :

- Custom Engines (20+ years), Unity, Unreal, Godot, GameMaker
- Plugin development & engine integration
- Oculus/Meta Quest (since 2018), HTC Vive, HoloLens
- Simulators, eye-tracking UI, military-grade UI hardware
- VBS3/VBS4/Blue IG (5+ years with Bohemia Interactive R&D)
- Git, GitHub, GitLab, SVN, Mercurial
- Docker, containerization, large open-source collaboration experience
- Test-driven development, SCRUM, JIRA, bug-tracking