Slade R. Villena
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Professional Experience

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 (Oculus 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 (January-2021 - September 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.

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

Software Engineer : VBS3/4/BlueIG + TerraTools (August 2020 - January 2021)
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 (2015 - 2017)
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
Active Duty (2002 - 2006), **Individual Ready Reserve** (2006 - 2009)
Deployed to Okinawa, Japan, Thailand & Korean Peninsula.

General Labor Experience

Uber / Lyft / Doordash (Bay Area, California, USA + Houston, Austin, Dallas, Texas, USA)

Rideshare Driver / Delivery Driver (2018 - Present Day)
Part time/seasonal work. 10k+ drives & 100k+ miles.

Texas Instruments (Santa Cruz, California, USA)

Wafer Fabrication Technician : Photolithography (2000 - 2001)
Semiconductor manufacturing, clean room operations.

Education

University of California, Santa Cruz, USA (2000-2001, 2006-2010)
Degree : Bachelors of Science, Computer Science (Game Engineering Track)

Cabrillo College, Santa Cruz, California, USA (2000-2001, 2006-2008)

Ateneo de Manila High School, Diliman, Quezon City, Republic of the Philippines (Class of 1999)
Co-Captain, Ateneo Debate Society. (1996-1999)
Shadow Team Member, World Universities Debating Championships (Ateneo University WUDC 1999)

Technical Experience : Software & Computer Engineering
Main Languages & General Programming Skills
• VR / AR Development with Oculus / Meta Quest (5 years)
• C/C++ (14+ years), Lua (9 years), GLSL (9 years). C/C++ tool-chain maintenance & cross-platform utilization w/ gcc, clang, cmake, gradle, maven with deep experience in maintaining build environments (Visual Studio, Android Studio/NDK, PlayStation SDK, XBox, and iOS)
Sub Languages
• C#, Java ,VBS3-script, Python, Javascript, Objective-C, Go
• Linux/Windows shell scripting (bash, powershell)
• Lisp, Scheme, assembly languages, MIPS instruction set, x86
Technical Specializations
• Graphics Programming : OpenGL 3.3 core, OpenGLES, GLSL (mobile + desktop), OpenSceneGraph and WebGL.
• UX/UI systems integration in SDL2, Qt/QML, fltk, AntTweakbar, WPF and scientific graphics tools.
• Practical + Hobbyist experience in custom electronics, soldering, clean-room protocols, PCB testing, assembling novel electronic components, sensor modules, embedded systems and related protocols (Arduino, Raspberry Pi, I2C, SPI, GPIO, UART)
• Cross-platform programming and deployment (Windows, Linux, OSX, iOS, Android, Sony PS)
• Working knowledge of programming techniques in parallel computation APIs (multithreading, lock-free programming), C++11/14/17 and modern C++, general techniques in C++ template meta-programming and Linux kernel module programming.
• Scripting environments, C++ to Lua binding, Unity C# to Android or iOS.
• Simulations prototyping, design, implementation and data de/serialization.
• Multi-process network design, with practical experience in TCP & UDP network programming.
• Multi-Agent AI programming, path-finding, path-planning, collision avoidance, swarms, camera control.
• Expertise in managing cache coherency, memory optimization techniques and direct memory access.
• Practical experience in a wide variety of data formats (XML, JSON) and various web technologies (HTML/CSS/JQuery/Node.js/Go-lang, Amazon AWS), and database environments (MySQL, Cassandra DB, memcached)
• Working knowledge of source code control, continuous integration+deployment and containerization. (Github, Git, Mercurial, SVN, Docker and similar technologies)
• Working knowledge of test-driven design, bug-tracking environments (JIRA) and software development workflows (Agile, SCRUM)
Game Engines, User Interface & Tools
• Custom game engine development (independent projects / contracting, 12+ years experience)
• VBS3/VBS4/BlueIG (military research, internal R&D with Bohemia Interactive, 3+ years experience)
• Unity, Unreal, Crytek, Cocos2D, with experience developing custom software plugins.
• VR & AR (Oculus, Quest Pro, HTC-Vive, Microsoft Hololens)
• Hardware UI experience in flight simulators & eye-trackers for scientific data collection.