

Vincent J. Liguori

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Summary

Lead Unity client engineer with 13+ years building scalable client foundations, tooling, UI architecture, and performance-critical systems in C#/.NET and C++. Experienced shipping and supporting multi-platform clients (Windows + WebGL/mobile browsers), mentoring engineers, setting coding standards, and driving technical decisions across UI and performance for production teams.

Professional Experience

Express Solutions - Austin, TX

Senior Software Engineer - Dec 2023 to Current

Client Foundations / Slot Engine Platform (Windows + WebGL)

- Own the slot engine foundations and tooling end-to-end, driving architecture, implementation, and long-term maintainability across a **Unity-based** casino game platform used for multiple titles.
- Lead performance strategy and engineering tradeoffs (profiling, GC/allocation discipline, pooling policies, responsiveness targets), with a focus on **WebGL** constraints and mobile browsers.
- Validated iOS Safari WebGL session stability via internal soak testing (self + QA), sustaining **35+ sequential game transitions** (open/close + play) in a single session without browser restarts.
- Delivered a **high-usage** mobile browser experience: ~30% of users play via WebGL on Android/iOS after leaving on-site locations (internal metrics), unusually high mobile browser usage for this market.
- Lead UI technical decisions, establishing scalable, testable patterns that support rapid designer/artist iteration.
- Establish and enforce **coding standards** for the Unity/C# codebase (architecture patterns, naming, safety/perf guidelines, and review expectations).
- Mentor a junior engineer through onboarding and production delivery via pairing, code reviews, and debugging practices.
- Participate in interviewing and hiring decisions, providing structured **technical evaluations** and recommendations to maintain the engineering bar.

Tangelo Games Israel - Tel Aviv, Israel

Lead Client Engineer - Contract, March 2021 to May 2023

Client Foundations / Slot Engine Platform (iOS + Android)

- **Led end-to-end development** of a Unity mobile F2P slot framework used to ship **Best Casino Legends Slot 777** on iOS/Android.
- Built a **cloud-hosted Addressables pipeline (AWS S3)** with on-demand bundle loading to **reduce memory footprint** and support live content updates.
- Implemented a **modular “game generation” architecture** enabling slot games to be configured dynamically (feature composition + front-end customization APIs) to support multiple game variants from a common foundation.
- Created internal **tools and reusable packages** (UPM/NPM + private Git) to standardize setup (packages, layers, prerequisites) and speed up new project integration.
- Delivered core client systems: **localization** (strings + sprites), **JSON state serialization/deserialization** (async/threaded), and **audio mixer routing** for separate music/SFX streams.
- Set **QA reproducibility standards** and partnered on triage (clear repro steps + tooling hooks), improving turnaround time on bugs and regressions.
- Integrated **Spine + 2D animation workflows** to support character/symbol animation and polish.

American Bureau of Shipping, Houston, TX

Unity Developer - Contract, August 2020 to Feb 2021

- Led technical feasibility and architecture discovery for bringing ship-scale CAD workflows into a Unity client, aligning requirements across visualization, editing, and downstream analysis constraints.
- Identified a core pipeline limitation (CAD → polygon conversion breaks requirements for finite element analysis) and prevented a high-risk implementation path by surfacing the constraint early.
- Proposed a hybrid client architecture: Unity as the interactive visualization/UI layer, integrating the existing CAD kernel/library for authoritative model edits; convert CAD → polygons for real-time rendering and exploration.
- Built Unity client prototypes/features including scalable UI patterns for large datasets (reusable offscreen UI components, multi-canvas management) and large-model rendering optimizations (occlusion prep, collision mesh preparation).
- Deployed a WebGL prototype to Azure and integrated SQL-backed data browsing for visualization workflows.

Forum Energy Technologies, Houston, TX

Software Engineer, Sept 2012 to April 2020

- Built and maintained a real-time simulation client and editor in **C++/MFC**, including UI systems (tooling panels, property editing, hierarchical scene/model views).
- Implemented **3D rendering and transformation systems** using **DirectX** and matrix math for model placement, interaction, and collision workflows.
- Developed **CAD/DCC export pipelines and plugins** (e.g., 3ds Max / SolidWorks / Inventor) to convert geometry into engine-ready formats; improved runtime performance via hierarchy collapsing and hidden-surface/mesh culling.
- Performed **profiling and optimization** (e.g., VTune) to reduce CPU/rendering hotspots and keep interactive clients responsive under real constraints.
- Created specialized simulation features including **SONAR/ray-based modeling** with performance-oriented techniques (SIMD/spatial partitioning), supporting training and engineering scenarios.

Perpetual Fx Creative, Addison, TX

Intern Game Programmer, May 2010 to August 2010

GUI development with Actionscript and Scaleform in Gamebryo for PS3.

University of North Texas, Denton, TX

Teaching Assistant, Sept 2008 to May 2010

Algorithms, Data Structures, Advanced Game Topics, Computer Graphics, Lab Instructor in Java & C++

Certifications

C++ Institute

CPA-21-01 CPA - C++ Certified Associate Programmer

Committee on National Security Systems, National Standards

CNSS 4011: National Training Standard for Information Systems Security Professionals

CNSS 4013: National Training Standard for System Administrators in Information System Security

Education

University of North Texas, Denton, Texas

BS in Computer Science, Minor in Mathematics, Spring 2008

MS in Computer Science, Summer 2012

Skills

Unity, C#, .NET, C++, Addressables, WebGL, Performance Profiling/Optimization, UI Architecture, Tooling & Pipelines, Git