BILL TRUONG

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Senior Unity Engineer & Technical Artist

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Professional Summary

Senior Unity Engineer and Technical Artist with 3+ years of hands-on expertise in optimizing VR/AR experiences, customizing render pipelines, and automating workflows. Skilled at collaborating across engineering and art teams to achieve stunning, high-fidelity visuals on resource-limited mobile platforms like Meta Quest and Android. Demonstrated success in designing automation systems that slashed production timelines by weeks, while pitching cutting-edge enterprise solutions to NVIDIA's C-suite executives. Dedicated to principled architecture (SOLID/DOTS), advanced shader development, and leveraging immersive tech to fuel user engagement and growth.

Technical Skills

Core Development: C# (Expert), Python (Advanced), C++, JavaScript, Swift, DOTS (ECS/Jobs), Multithreading.
Graphics & Tech Art: HLSL/Cg, Shader Graph, VFX Graph, URP/HDRP, Render Graph, GPU Instancing, Compute Shaders.
Engines & Platforms: Unity 2022/6 LTS, NVIDIA Omniverse, Meta Quest SDK, WebGL, Android/iOS.
Backend & Networking: Photon Fusion, SmartFox Server, REST APIs, Firebase, Real-time Replication.
Tools & DevOps: Git/GitLab, RenderDoc, Blender (Python API), Jira, Confluence, Adobe Suite.

Professional Experience

Curly Blue (Shmackle VR)   Remote
Senior Unity Engineer & Technical Artist   *Apr 2025 – Present*

- Architected the core networking layer using **Photon Fusion**, enabling complex physics interactions (grabbing, throwing) and state synchronization for up to 20 concurrent users with low latency.
- Solved critical performance bottlenecks on Meta Quest standalone hardware, achieving a stable **72+ FPS** by implementing additive scene loading, dynamic batching, and aggressive occlusion culling.
- Authored **80% of custom shaders** in HLSL, creating performant visual effects like "Fake Liquid," X-ray vision, and Ghost transparency without exceeding mobile draw call budgets.
- Spearheaded the "Shooting Range" major update, developing a modular weapon system and dynamic target pooling that directly resulted in a 25% increase in Daily Active Users (DAU).
- Designed the "Shmackle Pad" ecosystem, a diegetic UI system for inventory and social management, significantly improving UX and reducing motion sickness through dynamic FOV adjustments.

  ↪ ***Tech Stack:*** *Unity 2022, HLSL, Photon Fusion, Meta Quest SDK, C#*

FPT IS (akaVerse)   Ho Chi Minh City, Vietnam
Software Engineer (R&D) & Technical Lead   *Jul 2024 – Apr 2025*

- Selected to present the "Industrial Digital Twin" solution to **NVIDIA CEO Jensen Huang**, demonstrating a real-time bi-directional sync pipeline between Unity and NVIDIA Omniverse via Python/USD connectors.
- Developed "Bill Utils," an internal editor automation suite that revolutionized the heritage digitization workflow, reducing 3D scene setup time from **weeks to a single-click operation** by automating material assignment and prefab generation.
- Optimized *Animal Push Royale* (GameVerse 2024 Finalist), boosting performance by **300%** on low-end mobile devices. Achieved this by rewriting heavy crowd logic using the **C# Job System (Multithreading)** and Vertex Animation Textures (VAT).
- Integrated Compute Shaders for massive object rendering in WebGL, enabling the visualization of heavy CAD models in browser environments with high frame rates.
- Conducted R&D on VR motion sickness, implementing vignetting and locomotion smoothing algorithms based on physiological research to improve user comfort.

  ↪ ***Tech Stack:*** *NVIDIA Omniverse, Python, Compute Shaders, DOTS, WebGL*

Gameloft   Ho Chi Minh City, Vietnam
Gameplay Programmer   *Jun 2023 – Dec 2023*

- Contributed to the development of *Applaydu*, specifically engineering core gameplay mechanics for the "Treasure Toss" and "Animalody" minigames under strict enterprise clean code standards.

- Managed technical debt within a massive legacy codebase, utilizing Scrum methodologies and Jira to track and resolve over 50+ critical bugs related to UI/UX and memory leaks.
- Eliminated UI fragmentation across the Android ecosystem by implementing a responsive canvas scaling system, ensuring pixel-perfect rendering for diverse screen aspect ratios.
- Collaborated with game designers to iterate on core loops, translating abstract requirements into robust, reusable C# components using Design Patterns (Observer, Singleton, Command).
  - ↪ **Tech Stack:** *Enterprise C#, Jira, Scrum, Android Optimization, Git Lab*

Golden Sea Studio   **Remote**
Unity Developer   *Jan 2024 – Mar 2024*

- Led the full-cycle development of *Merge Fruit*, taking the project from prototype to release. Optimized texture atlases and audio compression to reduce build size by **40%**.
- Refactored the architecture of *Drink Game*, decoupling game logic from UI to support scalable content updates and new mini-game modules.
- Implemented monetization SDKs and analytics, ensuring seamless integration without affecting gameplay performance.
  - ↪ **Tech Stack:** *Unity Mobile, SDK Integration, Asset Optimization*

Key Technical Projects

Bill Biome Shader | *Technical Art / Tooling*   Open Source

- Engineered a high-performance stylized environment rendering suite optimized for mobile. Implemented **GPU Instancing** to render thousands of foliage objects interacting with players while maintaining <2ms CPU time.
- Developed a custom Unity Editor painting tool, allowing artists to paint biome data directly onto meshes with undo/redo support, streamlining the level design workflow.

Bill SSOutline (URP) | *Graphics Programming*   Open Source

- Created a Screen-Space Outline Render Feature for URP using the **Render Graph API**. Solved depth occlusion artifacts common in Sobel algorithms by implementing a depth-normal sensitivity pass.

Pro Atlas Baker | *Pipeline Automation*   Tooling

- Automated the texture baking process for game assets to reduce draw calls. Wrote a Python script within Blender API to pack UVs and bake lighting maps, enabling a "One-Click" optimization pipeline for the art team.

Bill's DevSprint (SaaS) | *Full Stack Web*   Personal Product

- Built a productivity SaaS platform in 48 hours featuring dynamic themes and Google Drive integration. Demonstrated full-stack capability (React, Node.js) and the ability to ship products rapidly.

Leadership & Community Contribution

FullHouseDev   **Remote**
Game Development Instructor & Marketing Lead   *Sep 2024 – Present*

- Designing and delivering advanced Unity curriculum covering Design Patterns, Optimization, and Shader Graph.
- Mentoring junior developers on portfolio building, code architecture, and technical interview preparation.

Content Creation (Bill The Dev)   **YouTube & LinkedIn**
Technical Content Creator   *2023 – Present*

- Produced educational content on Unity optimization and shaders, growing a following of **3,000+** developers.
- Active contributor to the Open Source community, releasing tools like *Responsive WebGL* and *Scene Switcher* which are widely used by indie developers.

Education & Certifications

FPT University   **Ho Chi Minh City**
Bachelor of Software Engineering (Talent Scholarship Recipient)   *2022 – Graduated 2025*

- **Achievement**: Awarded 30% Talent Scholarship (Top 30% of 10,000+ candidates). Maintained high academic standing (GPA 3.2/4.0) before transitioning to full-time Senior Engineering roles.

Certifications & Awards

Current

- **GameVerse 2024 Finalist**: Recognized for technical excellence with *Animal Push Royale*.
- **Unity Certified**: Complete C# Unity Game Developer 2D (Udemy/GameDev.tv).
- **Language**: IELTS 6.5 (Professional Working Proficiency).