

Sumi Nakamura

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EDUCATION

Master's in Entertainment Arts and Engineering, Engineer Emphasis, **University of Utah** 2018-2020
GPA: 3.90/4.00
B.Eng. in Computer Science and Engineering, **Waseda University**, Tokyo, Japan 2013-2017

TEAM PROJECTS

Engineer, **The Final Funktier** | www.suminakamura.com/thefinalfunktier

- Built a rhythm-based shooting game playing with a turntable-like controller using Unity and C#
- Implemented UI and functionality including start screen, tutorial system, result screen etc...
- Performed user research and implemented the required features to improved visibility and playability of the game
- Created procedural mesh generations system for a game play

Engineer, **Architac** | www.suminakamura.com/architac

- Built an exploration game involving tower-building and managing resources to escape a planet
- Implemented UI and tutorial functionalities and Blueprint templates for UI system
- Implemented an object spawning system which manages the life-time of the dynamically instantiated objects
- Implemented game-state manager and save-load functions

PERSONAL PROJECTS

Game Engines | www.suminakamura.com/gameengineproject

- Implemented game engine's basic functionalities in C++ such as:
 - Heap manager, multi-cast delegate, smart pointers, physics state, AABB collision detection, matrix, vector classes using SIMD, binary loader, and Lualoader for assets and shaders.
- Implemented the graphc renderer using OpenGL
- Structured the engine in a platform independent model

Offline Ray Tracing Renderer | www.suminakamura.com/raytracingrenderer

- Implemented an offline ray tracing renderer
- The functionalities and techniques include Blinn shading, shadow, reflection, refraction, BVH space partitioning, antialiasing, texture, soft shadow and glossy surface, Monte Carlo GI, path tracer

WORK EXPERIENCE

Software/Test Engineer, **Rockwell Collins / Collins Aerospace** 2018-2020

- Implemented CIGI4 (Common Image Generator Interface) packets for a light simulation software using C# and C++
- Implemented regression tests for the simulation software using Python
- Developed a VR airport simulation for a production demo using Unity and Steam VR
- Created automated GUI tests using Python and Testcomplete

SKILLS

C++, C#, Python, Java, Unity, UE4, Visual Studio, Git, SVN, OpenGL, Jira, Jama, 3DMath and Linear Algebra, Computer Architecture, Operating Systems