

Skills

Languages

- C / C++ (14/17)
- SQL
- Java
- Javascript
- Python

Software & Tools

- Visual Studio
- IntelliJ
- SVN
- Git

API & Libraries

- OpenGL
- GLFW
- FmodEX
- STL
- Boost

Physics / Math

- Vector Calculus
- Linear Algebra
- Statistics/Probability
- Fuzzy Logic

Graphics Programming

- PBR
- Deferred Shading
- GLSL Shader

Projects

AI Programmer

May 2017 - Present

Starcraft : Broodwar <https://goo.gl/CVE3D6>

Solo Project

"A custom AI bot with influence map", BWAPI, C++

- Researched, evaluated, and designed the conceptual model for the real-time simulation game from scratch
- Developed object manager, build order queue, and influence map to make dynamic strategies
- Integrated 3rd party library(map analyzer), Implemented custom pathfinder for the efficient movement
- Examined the performance and optimized the system **300%** faster than former version by union and bitwise operation

Graphics and Gameplay Programmer

Sep 2016 – Apr 2017

Alaska Roll

5 Person Team

"A 3D shooter rolling a snowball", C++ Custom Engine

- Built a custom deferred shading based graphics rendering system using OpenGL which increases performance and stability
- Led three programmers with task prioritization and delegation to best meet deadlines and milestone expectations
- Assisted physics programmer to build collision system for better performance; $O(n^3)$ to $O(n^2)$
- Designed the rule base and programmed multiple aspects including AI and basic gameplay

Gameplay Programmer, Designer

Sep 2010 - Apr 2011

AMAZE

7 Person Team

"A 2D puzzle shooter finding a route through the maze against the enemies", C++ Custom Engine

- Created a tool that allows designer to procedurally generate tile map without difficulty
- Constructed particle engine, text rendering systems and UI, increasing creative visual appeal in the game
- Wrote scalable gameplay components allowing designers to iterate on 3 bosses and 8 enemies across 5 levels
- Designed, implemented, tested, and iterated on the game's tutorial alongside the lead designer

Experience

Associate Programmer

Mar 2010 - Aug 2010

CobaltRay - Seoul, Korea

- Programmed a tool that helps to sync sheet music and song easier using MFC.
- Developed code fixes and enhancements for inclusion in future code releases and patches.
- Collaborated with product management to design, build and test systems.
- Built, tested and deployed scalable, highly available and modular software products.

Education

Bachelor of Science in Computer Science in Real-Time Interactive Simulation

Graduated 2018

(ABET, CAC Accredited Program)

Minor in Mathematics

DigiPen Institute of Technology (Redmond, WA)