

KALBY JANG

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DigiPen Institute of Technology

B.S. Computer Science in RTIS (Real-Time Interactive Simulation)

Redmond, WA

Sept 2017 – Dec 2021

Technology-focused video game studies and development reflecting industry standards and practices.

Proficient Languages: C#, C++, C, Java, GLSL, Lua, GNU, CMake

Tools: Unreal Engine 4 & 5, Unity Engine, Nintendo Switch Dev Kit, CLion/Rider (JetBrains), Visual Studio, Maya, Substance Painter, Final Cut, Adobe Premiere, Motion, Git, Linux, Dr. Memory/Valgrind

ACADEMIC PROJECTS

A* Pathfinding AI

Oct 2019

Optimized for speed

Programmer

(C++, VS 2019)

- Minimized runtime using priority lists, small data structs, VS optimization flags (O2).
- Quickest time was ~1723ms on a 40x40 grid.
- Achieved “Top Three” speeds in class and awarded with a tour at Nintendo of America, Redmond.

Behavior Trees

Sep 2019

Creative AI behavior

Programmer/Designer

(C++, VS 2019)

- Created a spooky miniature theater using 4 unique behavior trees with custom nodes and decorators.
- Learned the history and usage of behavior trees in video games.

GOAP (Goal-Oriented Action Planning)

Dec 2019

AI Planning Architecture

Team of 2

Programmer

(Unity, C#)

- An AI decision-making algorithm for completing tasks using pre-defined goals and actions.
- Built a demo where workers gather, deliver and use materials to build paths and vehicles to reach a goal post.
- An AI manager examines all available paths and creates a plan based off of...
 - Logistics of material requirements, delivery distance, construction cost, and available workers.

Automated Tank Race

Oct 2017

Programmer

(Assembly)

- Programmed an AI for an embedded, treaded, RC tank to navigate itself in a walled maze.
- Part of an optional class contest to race against other students and their tanks.
- Finished the maze with the fastest time in the class with no collision penalty on the first try.