

Game Developer

Shout out to Chris Ohk who helped make the initial version of this roadmap.

Visit his GitHub

Find the detailed version of this roadmap along with other similar roadmaps

roadmap.sh

Client Side Development

Server Side

Linear Algebra

Vector

Matrix

Linear Transformation

Geometry

Affine Space

Affine Transformation

Projection

Orientation

Perspective

Quaternion

Orthogonal

Euler Angle

Game Mathematics

Curve

Spline

Hermite

Bezier

Catmull-Rom

Center of Mass

Moment of Inertia

Acceleration

Joints

Restitution

Force

Angular Velocity

Buoyancy

Friction

Linear Velocity

Dynamics

Game Engine

Game Physics

Unity 3D

Unreal Engine

Native

Godot

C#

C/C++

Rust

Python

GDScript

Programming Languages

SAT

GJK

EPA

Intersection

Convexity

Convex Hull

Convex Decomposition

Convex

Concave

Collision Detection

CCD

Narrow Phase

Broad Phase

Bounding Volume

Spatial Partitioning

OBB

AABB

Sort & Sweep

DBVT

BVH

Stencil Shadow

Lighting and Shadow

Shadow Map

Light Source

2D

Cube

Directional

Spot

Cascaded

Infinite

Point

Visibility and Occlusion

Occluder

Culling

Clipping

Fog

Frustum

Polygon

Light

Polyhedron

Shadow

Getting deeper



Ray Tracing

Rasterization

Graphics Pipeline

Sampling

Shader

Rendering Equation

Mapping

Reflection

Texture

Diffuse

Bump

Specular

Parallax

Horizon

Computer Animation

Color

Visual Perception

Tone Reproduction

Computer Graphics

HLSL

GLSL

SPIR-V

DirectX

OpenGL

Vulkan

Graphics API

OpenGL ES

Metal

WebGL

Game AI

Decision Making

Movement

Decision Tree

State Machine

Behavior Tree

Fuzzy Logic

Markov System

Goal Oriented Behavior

Board Game

Minimax

AB Pruning

MCTS

Naive Bayes Classifier

Decision Learning

Reinforcements Learning

Decision Tree Learning

Deep Learning

Artificial Neural Network

Maximise your skills

Learning

Game AI

Physically-Based Rendering

Advanced Rendering

Real-time Ray Tracing

Microsurface Scattering

Translucency & Transparency

Conservation of Energy

Metallicity

DirectX Ray Tracing

Vulkan Ray Tracing

OptiX

Visit the following relevant roadmaps

Backend

API Design